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**HAZARDOUS SUBSTANCE
MANAGEMENT SYSTEM (HSMS)
ACTIVITY IMPLEMENTATION MANUAL**

AIM

NAVAL SUPPLY SYSTEMS COMMAND

NAVSUP Publication-720

NAVSUP P-720, HSMS ACTIVITY IMPLEMENTATION MANUAL

DEPARTMENT OF THE NAVY
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1. This publication is issued for the information and guidance of all interested personnel.
2. Hazardous Substance Management System (HSMS) Activity Implementation Manual (AIM) provides detailed guidance to receiving Naval activities on the HSMS implementation process. The plan outlines the history of HSMS development, system description, implementation approach, implementation roles and responsibilities, implementation preparations, post-Initial Operating Capability (IOC), implementation activities, software/hardware maintenance and supply guidance.
3. This is a dynamic document that will change frequently as lessons are learned during the implementations.
4. Questions and comments concerning this plan should be provided to NAVSUP Code 4C3 at 717-605-1990, or fax 717 605-3815.

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Executive Summary

1. Introduction. The Department of Defense (DOD) has mandated that the Hazardous Substance Management System (HSMS) be used by all of the Military Departments (MILDEPS) and DOD components as the standard hazardous material (HM)/hazardous waste (HW) management and tracking system to facilitate compliance with Executive Order (E.O.) 12856. The E.O. requires Federal agencies to comply with the provisions of the Emergency Planning and Community Right-to-Know Act of 1986 (EPCRA). The Chief of Naval Operations (CNO) (N45), the HSMS resource sponsor, and overall Program Manager has designated the Naval Supply Systems Command (NAVSUP) as their Executive Agent for implementation of HSMS. The NAVSUP Program Management Division (Code 4C3), has been assigned as Project Manager for implementation of HSMS within the Navy. The Activity Implementation Manual (AIM) provides background and guidance to activities that will be implementing HSMS. It describes the necessary aspects of implementation including the software and hardware comprising a typical HSMS configuration, the implementation approach being used by NAVSUP Code 4C3, the roles and responsibilities of the interested parties, and detailed guidance on what the individual activity can and should do to facilitate the implementation process.

2. System Description

a. HSMS operates in a Windows NT or UNIX network environment. The HSMS standard database engine is Oracle 7.3. Clients without direct network connection to the server can use HSMS over a dial-up telephone connection. Reports other than those available directly from the HSMS application can be generated using an ad hoc report writer and the standard for the Navy.

b. NAVSUP Code 4C3 is providing the initial suite of hardware to support HSMS. Receiving activities are also expected to use their existing computer resources to round out their configuration, if necessary.

3. Approach

a. The implementation approach that NAVSUP Code 4C3 has chosen to follow is to integrate HSMS into the Navy's Consolidated Hazardous Material Reutilization and Inventory Management Program (CHRIMP).

b. CHRIMP is the methodology developed by the Navy to achieve life-cycle HM and management and pollution prevention at an activity through centralized management of HM. The Hazardous Inventory Control System (HICS) was the original software application used to help manage the CHRIMP process. HSMS will replace any remaining HICS systems at shore activities.

c. OPNAVINST 5090.1 (Series) specifies that all Navy shore activities in the customs territory of the United States and in Guam must comply with EPCRA. It also specifies that the "fence line" owner who is issued the Environmental Protection Agency number is responsible for reporting for all tenant commands/activities within their "fence line." This requires a robust chemical tracking system that can accommodate HM and HW management evolutions for different activities within a "fence line" and can allow multiple users to access the system. HSMS operates in a computer network environment and has the necessary versatility.

d. NAVSUP Code 4C3 intends to implement HSMS on a regional basis as follows: Puget Sound region was the Navy prototype, Subsequent regions will be the Virginia Tidewater area, Pearl Harbor, Southeast, Pacific Southwest, Northeast, and Midwest/West.

e. Regional implementation begins with an evaluation to determine which Navy activities within that region need HSMS and in what order those activities should be implemented and brought up to Implementation Operating Capability (IOC). The IOC implementation process at a CHRIMP activity nominally takes 28 weeks to complete and involves 6 phases:

- (1) Phase I - Introduction
- (2) Phase II - Planning
- (3) Phase III - Equipment and data preparation
- (4) Phase IV - Equipment and software installation
- (5) Phase V - Data loading
- (6) Milestone - IOC
- (7) Phase VI - HSMS IOC follow-up

f. The IOC implementation process at a non-CHRIMP activity normally takes 38 weeks to complete and involves 8 phases:

- (1) Phase I - Introduction
- (2) Phase II - Planning
- (3) Phase III - CHRIMP preparation
- (4) Phase IV - Equipment and data preparation
- (5) Phase V - Equipment and software installation

- (6) Phase VI - Material data loading
- (7) Phase VII - CHRIMP refinement/additional data loading
- (8) Milestone - IOC
- (9) Phase VIII - HSMS IOC follow-up

4. Roles and Responsibilities. The implementation of HSMS is unique in that it affects the whole activity rather than one department. The HSMS system and implementation processes are equally complex. Successful implementation demands a team effort by all involved. This plan outlines the roles and responsibilities of everyone involved from CNO to the various functional points of contact at the receiving activity.

5. HSMS Implementation Preparations

a. The implementation of HSMS involves an extensive effort on the part of the receiving activity. HSMS is a key-supporting component of CHRIMP. If an activity has not already done so, they institute CHRIMP. Additionally, critical decisions must be made early in the implementation process concerning what activities are within the "fence line" and should be included in HSMS and current business practices as they relate to hazardous material and hazardous waste operations, must be evaluated.

b. Data collection and development form a large part of the implementation effort. The activity will be provided with extensive help in this regard by a NAVSUP Government contractor. However, much data is unique to the activity and must be collected and developed by activity personnel. As part of the implementation support effort, the Government contractor will assist and coach the activity in these areas.

6. Post Initial Operating Capability Responsibility. HSMS IOC is achieved when HSMS has been implemented to the extent it is operational and capable of supporting the inventories and sites initially incorporated (integrated) into the system. IOC implies a self-sustaining system, capable of perpetuation and expansion. Except in very rare instances, IOC will not be a turnkey condition incorporating all of the inventories and sites within a facility. Accordingly, once IOC has been achieved and direct contractor support funded by NAVSUP completed, the facility must develop a plan to expand HSMS within the entire "fence line." This can be accomplished using internal resources or activity funded contractor support. In any case, the procedures used to implement the initial HSMS capability at a facility should be mirrored during the post IOC expansion periods.

7. **Maintenance.** The HSMS system and implementation processes are complex. Both hardware and software system maintenance is essential to ensure continued functional and operational capabilities. NAVSUP has provided activities with a hardware suite to implement the HSMS. The hardware is covered by various warranties. If the provided software has an insufficient number of user licenses, it is the installing facility's responsibility to procure additional software licenses to adequately protect the facility from litigation.

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CHAPTER 1

INTRODUCTION

1. **Purpose**. E.O. 12856 mandates federal agency compliance with substantive portions of the EPCRA of 1986. Both DOD and Department of the Navy (DON) guidance require Navy activities to comply with EPCRA, which requires detailed and ongoing record keeping of HM inventories. In this regard, DOD has mandated HSMS be used by all MILDEPs and DOD components as the standard HM/HW management and tracking system. The AIM is the guiding document to assist Navy activities in implementing HSMS. Originally a Navy system, HSMS is designed to facilitate the EPCRA record keeping and reporting process and to facilitate CHRIMP under the umbrella of the Hazardous Material Control and Management (HMC&M) Program. This manual provides the background, system description, implementation approach, roles and responsibilities, activity implementation preparations, post-IOC functions, software/hardware maintenance and supply guidance necessary to implement HSMS at a Navy activity.

2. **Scope**. The AIM describes the necessary aspects of fielding HSMS at an activity to ensure successful completion of the implementation effort. The plan describes the history of the system, including implementing directives; it explains the purpose of HSMS and how it fits into the regulatory reporting scheme as well as the overall CHRIMP and HMC&M concepts; it describes how HSMS can be used as a HM/HW management tool at an activity; it describes in detail the implementation process and schedules, including support from NAVSUP and the implementation contractor; it outlines the various roles and responsibilities of those headquarters and field activities involved; and it details the specific preparations required of the receiving activity to successfully complete system implementation.

3. **History**

a. In June 1990, Portsmouth Naval Shipyard generated a comprehensive request to Naval Sea System Command (NAVSEA Code 07SM) to incorporate HM/HW accountability and Superfund and Reauthorization Act (SARA), Title III, reporting requirements into the existing Shipyard Material Management/Shop Stores System (MM/MS). In December 1990, NAVSEA Code 0725 and NAVSEA Code 072M tasked Management Systems Support Division (MSSD) to evaluate this proposal and research other available alternatives. NAVSEA and MSSD, with Portsmouth Naval Shipyard support, began to investigate the possibility of modifying existing naval shipyard automated systems or to procure a new automated system.

b. In March 1991, NAVSEA Code 072M sent a letter to NAVSUP explaining the problem and requesting guidance. In April 1991, MSSD completed their automation alternative report and recommended NAVSEA support a Navy-wide system acquired under the leadership and guidance of NAVSUP. NAVSUP responded to the March letter by conducting several meetings with NAVSEA and organized an automation-working group to address the requirements of a Navy-wide system. The working group members consisted of representatives from MSSD, Naval Facility Systems Command (NAVFAC), NAVSEA, NAVSUP and Portsmouth Naval Shipyard.

c. MSSD research on available automated options included the following alternatives:

- (1) Develop a new independent system,
- (2) Acquire a commercial system,
- (3) Acquire any existing DOD component system,
- (4) Expand an existing Navy HM system; or,

(5) Incorporate the Navy unique requirements into the Environmental Quality Information System (EQIS). EQIS was sponsored by the Office of the Chief of Naval Operations (OPNAV), managed by NAVFAC, and under development by the Naval Facilities Engineering Support Center (NFESC). EQIS was funded and had a program manager. In December 1991, OPNAV tasked NAVSUP to develop a Navy-wide HM/HW management system as a module within the EQIS Program.

d. In April of 1991, NAVSEA, MSSD, and the naval shipyards assessed the impact of EPCRA on hazardous substance (HM and HW) inventories in the shipyards. They also assessed the potential impact of the impending Federal Facilities Compliance Act (FFCA) which could require all federal facilities to fully comply with EPCRA. There was no DOD system available at the time or planned in the immediate future that would provide an automated tool for integrated HM/HW management. Procurement of a commercial package would be cost prohibitive and contracting requirements would not support the timeframes required to support the upcoming reporting requirements. Navy and other DOD activities began developing ad hoc automated capabilities.

e. The final recommendation agreed to by NAVSEA and the naval shipyards was to influence OPNAV support for Navy-wide standard software development under the leadership of NAVSUP. The recommendation was based on NAVSUP's role as overall program manager for the material aspects of the Navy's HMC&M program, as designated by CNO. OPNAV and NAVSUP accepted the

plan as proposed by NAVSEA. Their acceptance of this plan required NAVSEA to offer naval shipyards as prototype locations for software testing and to volunteer maximum participation in software selection/refinement. As part of this commitment, NAVSEA requested that the naval shipyards convene a Process Action Team (PAT) to produce a series of functional requirements for the development of a HM/HW system as a module to CNO's proposed EQIS.

f. On 4 November 1991, OPNAV assigned NAVSUP the responsibility for development and acquisition of a Navy-wide HMC&M system. On 19 November 1991, the NAVSEA PAT report was presented and accepted at the OPNAV HMC&M Steering Committee meeting. The requirement package jointly developed by an OPNAV HMC&M Reporting/ADP Working Group and the NAVSEA PAT was used as the basis for establishing an activity module within EQIS. This module was to be known as the HMC&M automated system. In December 1991, OPNAV further tasked NAVSUP to assign the highest priority to the development of the HMC&M automated system. The Navy Computer and Telecommunications Area Master Station Atlantic (NCTAMSLANT) was selected as the developer and work commenced.

g. All MILDEPs and DOD components were confronted with the same EPCRA requirements, resulting in development of many nonstandard ad hoc automated tools at the installation level. The need to eliminate redundancies and unnecessary DOD-wide costs caused by these overlapping systems, coupled with a heightened demand for environmental compliance, resulted in the issuance of Defense Management Review Decision (DMRD) 920 of 13 December 1991. DMRD 920 created the Defense Environmental Security Corporate Information Management (DESCIM) Program Management Office (PMO). DESCIM PMO objectives provide tools for consistent DOD environmental management and reporting, eliminate redundant information systems, and identify opportunities for business practice improvements.

h. On August 3, 1993, the President signed E.O. 12856, "Federal Compliance With Right-to-Know Laws and Pollution Prevention Requirements" directing all Federal agencies to comply with the EPCRA of 1986 and the Pollution Prevention Act of 1990 (PPA). The E.O. emphasized two goals. First, it directed Federal agencies to become leaders in providing communities and emergency planners with appropriate information on hazardous substances and toxic chemicals stored at government facilities. Second, the Federal government must demonstrate pollution prevention leadership by improving facility management, incorporating environmental principles in acquisition practices, establishing comprehensive pollution prevention plans and developing innovative technologies.

i. Consistent with DMRD 920 and E.O. 12856, DESCIM PMO established a joint functional work group to document functional requirements, create system evaluation criteria, evaluate legacy (existing) systems, and make recommendations as to which of these systems should be selected as the DOD interim standard or migration system. The joint functional work group consisted of representatives from multiple command levels of all MILDEPs and components. The work group determined that a fully integrated HM/HW/Pollution Prevention (P2) system was needed to best support needs. This integrated approach was titled the HSMS. The work group developed HSMS activity and data models, which represented all current DOD business practices and data requirements. The HSMS models served as a basis for development of system evaluation criteria for evaluation of legacy systems.

j. Over 50 HM and/or HW automated tools were identified by MILDEPs and DOD components as currently in operation within the DOD. Initial review limited the list to 15 actual systems, which were purported to support some or all of the integrated HM/HW/P2 requirements. These 15 systems were subjected to joint functional and technical evaluations. The evaluation process resulted in recommending two legacy systems, which best met the joint DOD requirements, as the DOD migration systems. These systems were the McClellan Air Force Base commercially based Environmental, Safety, Occupational Health Management Information System (ESOH-MIS) and the Navy HMC&M automated system. In addition, the Air Force was allowed to continue using its Environmental Management Information System (EMIS) until it transitioned to the HSMS migration system.

k. The DESCIM PMO accepted the recommendations and forwarded them for Office of Secretary of Defense (OSD) approval. Deputy Under Secretary of Defense (Environmental Security) (DUSD(ES)) approval was received in April 1995. Assistant Secretary of Defense (Command, Control, Communication, and Information) approval followed in July 1995. DESCIM PMO was tasked to provide centralized program and configuration management pending establishment of a formal Defense Configuration Management Board (CMB). DESCIM PMO would centrally manage software configuration, provide initial software training, and distribute the system to MILDEPs and DOD components for implementation following respective implementation plans. The initial HSMS Version 1.0 would be fielded. User input would be collected through the CMB process and the system would be enhanced through version and maintenance releases. DUSD(ES) directed MILDEPs and DOD components to transition to the approved migration system, to cease new development or acquisition, and to develop plans for the implementation of HSMS.

l. Due to the proprietary nature of the ESOH-MIS, the DESCIM PMO could not obtain the code, nor provide centralized management. Installations would be allowed to purchase the software, but could not receive DOD funding. This resulted in the *de facto* selection of the Navy HMC&M as the DOD HSMS migration system. To maintain continuity, NCTAMS LANT was selected as the central design activity. Minimal changes identified by Portsmouth Naval Shipyard were made to meet immediate needs and the system was released to the MILDEPs and Components as Version 1.01.

m. CNO N45 designated NAVSUP Code 4C as the Executive Agent for Navy-wide HSMS implementation. The implementation plan identified fielding HSMS to initial sites to collect valuable experience, while planning for and conducting a by-region fielding. The Navy continued to be the principal user of the new DOD HSMS. Training was conducted and initial sites submitted a number of system change requests to enhance HSMS ability to meet user needs.

n. A simultaneous DOD effort was on going. As part of the Defense-wide effort to reduce duplication and to prove the feasibility of cross functional integration, DESCIM PMO was tasked to incorporate approximately 14 new functional capabilities found in the Joint Logistics Support Center's Depot Maintenance-Hazardous Material Management System (DM-HMMS). The new requirements would be incorporated into a new DESCIM HSMS baseline, Version 2.1. When completed, the integrated system would be demonstrated at Warner Robins Air Logistics Center as part of a broader DOD demonstration. This integration effort delayed the incorporation of Navy requirements, negatively impacting the Navy implementation plan.

o. CNO N45 requested that a limited HSMS Version 2.0 be developed to meet immediate Navy implementation needs, pending release of the new DESCIM HSMS baseline, Version 2.1. Specific Navy requirements were jointly reviewed and prioritized by NAVSUP, NAVSEA, DESCIM and NCTAMSLANT. Changes were incorporated into HSMS by NCTAMSLANT and provided to the Navy as Version 2.0 for immediate and limited fielding to the Puget Sound region. Several additional Navy requested changes were made to Version 2.0 during this implementation. Further fielding was held in abeyance, pending completion of Version 2.1.

p. Version 2.1 draft was completed on 1 July 1996, demonstrated for 60 days at Warner Robins Air Logistics Center and beta tested at Portsmouth Naval Shipyard. This version consolidated requirements identified by HSMS Version 1.01, DM-HMMS, and HICS users, as well as other business practice enhancements identified by Navy personnel. During and after

testing, system corrections were made and validated and the new baseline HSMS Version 2.1 was officially released to MILDEPs and DOD components on 23 October 1996. The Army and Navy conducted additional functional validation of the new system. Navy validation was conducted in the Puget Sound region. The principal Navy HSMS contractor installed system upgrades and assisted in the transition to the new system in late October/early November 1996. End-user activities validated system functionality. NAVSUP and MSSD were responsible for collecting information. Results of the Navy functional validation and recommendations were forwarded to CNO N45 and to the CNO Steering Committee on 3 December 1996.

q. Collected recommendations were added to previously submitted Navy HSMS change requests. DOD-wide changes that could be integrated within a 6-month HSMS release schedule were incorporated into Version 2.1.2 and released to the Services validation on 13 January 1997. Navy testing led to several system corrections, which were incorporated prior to fielding as the new HSMS standard.

r. NAVSUP and Army continuously approached the DESCIM PMO about the large numbers of requested changes, which had not yet been incorporated. Several joint meetings were held by the DESCIM PMO to prioritize and fund HSMS changes. Many of the changes would require significant programming. To meet immediate needs and HSMS schedules, it was determined that the DESCIM PMO would maintain a dual development effort. Changes requiring significant programming effort were deferred and incorporated into a totally new target system designed to support all DOD MILDEP and Component requirements. Simultaneously, NCTAMSLANT began converting all of Navy's existing HSMS Informix Database sites to Oracle; provided an interim release (2.2); and is incorporating urgent changes not requiring major logic changes into Version 2.3. Further, Version 2.3 is being written in a new language to provide user's with ease of use made available through a true 32-bit Windows environment. Once Version 2.3 is released HSMS will no longer work with Windows for Workgroups. It will work only with Windows NT, 95, and 98 client operating systems.

s. In November of 1997 DESCIM released Version 2.2, this release incorporated 111 new System Change Requests (SCRs) and was released to the Services for functional testing and fielding in November 1997. Service pack 1 (SP1) was released on 19 December 1997. HSMS Version 2.2 SP1 is the current release as of the date of this document. Navy began fielding Version 2.2 SP1 in mid-January 1998. Initial release of Version 2.3, containing 213 additional SCRs, is anticipated in April of 1999. Release of the new target system, Environmental Inventory Management (EIM) Version 1.0, is anticipated in fiscal year 1999. Hazardous Substance Module

(HSM) will be a component of EIM and will replace HSMS from that point in time.

CHAPTER 2

SYSTEM DESCRIPTION

1. HSMS Software. The HSMS software consists of a client application and a server database. The standard network client configuration uses either Windows for Workgroups 3.11 with a Winsock 1.1-compliant TCP/IP stack or Windows 95 or NT Workstation with its TCP/IP software. The Oracle client software used to connect to the database is SQL Net 2.2 or 2.3. NAVSUP ships the software with an installation program that guides the user through the initial load and or upgrade of the client and database software. For clients with barcode printers, Seagull Scientific Bar Tender for Windows (16-bit) will be loaded and Windows for Workgroups 3.11 or Windows 95 must be used. Windows NT requires a 32 bit version of Bartender, this software will be provided to sites using NT Workstation clients. Clients without direct network connection to the server can use HSMS over a dial-up telephone connection using Trumpet Winsock Dialer on Windows for Workgroups clients, or Remote Access Service (RAS) on Windows 95 or Windows NT Workstation.

The HSMS server standard operating system is Windows NT Server 3.51 or 4.0. The HSMS standard database engine is Oracle 7 Workgroup Server. Informix products can also be used as the database engine. RAS software must be installed on the server if any clients will dial-in to the server over telephone lines.

2. Supporting Software. An ad hoc report writer can generate reports other than those available directly from the HSMS application. IQ Software Corporation Intelligent Query (IQ) is the original standard ad hoc report writer for Navy. The IQ package consists of one Database Administrator version (DBA) for use on the client where reports will be designed, and ten licenses for the runtime version. The runtime version should be used on client machines where end-users execute pre-made reports. Currently, other products such as Microsoft Access and Crystal Writer are being evaluated as ad hoc report writers.

a. HSMS software does not require virus software; however, most facilities have an Automated Information System (AIS) policy pertaining to the detection and prevention of viruses. The Department of Defense (DOD) has a site license for the use of the McAfee's VirusScan software Antivirus. It is available through the Automated Systems Security Incident Support Team (ASSIST) web page at www.assist.mil. ASSIST is an element of Defense Information Security Agency (DISA).

This web site provides McAfee's VirusScan software for all Windows products. They also provide the latest upgrades

3. Suggested Hardware Configuration for Windows for Workgroups or Windows 95

a. Workstation Hardware (Minimum specification)

100 Mhz Pentium
540 Mb IDE Hard Drive
16 Mb RAM
Ethernet Network card with 10BaseT and 10Base2 connections
3.5" Floppy Drive
Mouse
Monitor, SVGA

Optional:

Intermec 4100 barcode printer
Intermec 1545 barcode scanner
Intermec 9710 keyboard interface wedge
Janus 2020 portable barcode scanner
33.6 internal or external modem

NOTE: Windows NT Workstation Clients machines are IT21 compatible (Pentium Pro 200 based)

b. Server Hardware (Minimum specification)

Server with 2 Pentium 120 chips
Two 4 Gb SCSI Hard Drives
SCSI controller card
CD-ROM Drive (8X)
128 Mb RAM

Ethernet Network card with 10BaseT and 10Base2 connections
Tape Drive (2 Gb w/DDS-90)
3.5" Floppy Drive
UPS 1000 VA
Mouse
Monitor, SVGA

Optional:

DigiBoard 8r AccelePort Com Port Adapter card
33.6 external modems

4. Summary. A summary of the software and hardware that constitute a typical HSMS computer setup is contained in Table 2-I on page 2-4. This chart details current hardware/software inventories available for installations. This hardware/software was purchased from existing

government contracts. A diagram of the typical setup can be found in

Figure 2-1 on page 2-5.

Table 2-I Typical HSMS Software and Hardware Computer Setup

<p>SERVER Windows NT 3.51/4.0</p>	<p>CLIENT Windows for Workgroups/Windows 95</p>
<p>HARDWARE</p>	
<ul style="list-style-type: none"> • 2 - 120 Mhz Pentium CPU • 128 Mb RAM • 2 x 4 Gb SCSI Hard Drives • Mouse • 15" SVGA Monitor • 28.8 or 33.6 v. 34 external modem (dial-up sites) • BNC/RJ-45 Ethernet Network card • SCSI Adapter • 4mm SCSI DAT Tape Backup • 8X SCSI CD-ROM Drive • 8 port Digiboard (dial-up sites) • UPS 	<ul style="list-style-type: none"> • 133 Mhz Pentium CPU • 16 Mb RAM • 1.2 Gb Hard Drive • Mouse • 15" SVGA Monitor • 33.6 v. 34 modems (dial-up sites) • BNC/RJ-45 Ethernet Network card • *Optional: Intermec 4100AD Barcode Printer • *Optional: Intermec 9710 Barcode Wedge and 1545 Scanner • *Optional: Janus 2020 Portable Barcode Scanner
<p>SOFTWARE</p>	
<ul style="list-style-type: none"> • Oracle Workgroup Server 7.3x. • Windows NT Server Ver. 3.51 or 4.0 	<ul style="list-style-type: none"> • HSMS Application • SQL Net 2.2 or 2.3 • TCP/IP - 32 3.11b Network Driver or Win 95/NT TCP/IP • Windows for Workgroups 3.11/95/NT • IQ DBA or IQ Runtime • Bartender (Barcode printing clients) • Trumpet Winsock (dial-up clients/Win for Wkgps)

* Optional: Bar code equipment and printers are assigned to activities based on business practices. Not all clients will have bar code equipment.

Typical setup differs from minimum specification 3.a. & 3.b.

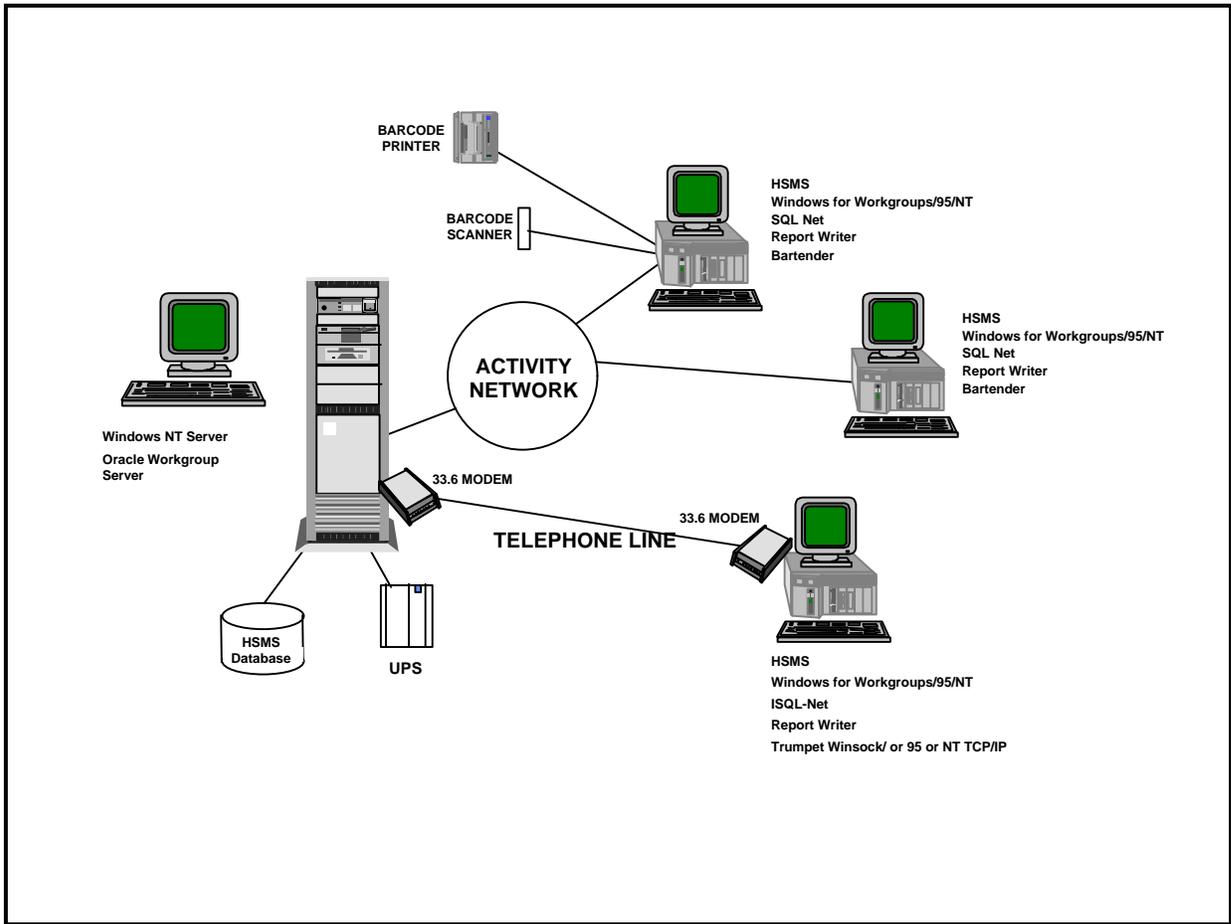


Figure 2-1 Typical HSMS Setup

CHAPTER 3

APPROACH

1. Background

a. Pollution Prevention. HSMS is an automated tracking system designed to provide "cradle-to-grave" tracking not only of the hazardous material used at a facility, but also the chemical constituents of those materials. Much of the driving force behind the system's development is the need for a system that will facilitate EPCRA reporting in order to comply with E.O. 12856. The system also provides naval activities with a tool to facilitate CHRIMP and can be used to analyze the flow of hazardous material through their activity, and then develop sound pollution prevention initiatives to: (1) reduce the amount of HM procured and used, and (2) reduce the amount that becomes HW. We have long known that if accurate HM usage data was available, then the path to HM/HW minimization would be clear. HSMS does just that and more. It not only gives an activity visibility of all of its hazardous material, it also identifies the locations, the individuals, and the industrial processes that are associated with that material. While many of the implementation decisions and policies relate to the Federal EPCRA reporting mandate, the importance of HSMS as a CHRIMP and pollution prevention tool must not be overlooked.

b. E.O. 12856 or SARA Title III for Federal Facilities - Community Right to Know Law of 1986 Superfund Amendments and Reauthorization Act (SARA). One of the primary guidelines used by the Navy in developing the functional requirements of the HMC&M system was ensuring compliance with Title III of SARA. As development began on the Navy's HMC&M system in 1992, federal agencies were granted exemptions from reporting under Title III.

On 3 August 1993, E.O. 12856 required federal compliance with Title III of SARA. Title III is known as the EPCRA. Under EPCRA, Naval facilities are required to comply with the provisions in Sections 301-303, 304, 311-312, and 313. The following highlights EPCRA requirements:

- Section 304. Starting 1 January 1994, naval facilities that store and/or use an Extremely Hazardous Substance (EHS) or Hazardous Substance (HS) will provide immediate verbal and a written follow-up notice of a substance released to any environmental media over a 24-hour period that exceeds the established Reportable Quantity (RQ) to the State Emergency Response Committees (SERCs)/Local Emergency Planning Committees (LEPCs) of any state and community that may be affected and to the National Response Center.

- Section 302. Beginning 3 March 1994, naval facilities must provide one-time notification to the SERC and LEPC that they are subject to, the emergency planning requirements of EPCRA for any EHS in quantity equal to or greater than the applicable Threshold Planning Quantity (TPQ). The list must be updated if an EHS becomes present at a naval facility in excess of its TPQ, or if the EHS list is revised and the Naval facility has present an EHS in excess of the TPQ.
- Section 303. By 3 August 1994, naval facilities were to have provided emergency planning information requested by their LEPC, to the maximum extent practical, while taking into consideration national security issues. Naval facilities as a minimum will appoint a facility representative to actively serve on the LEPC.
- Section 311. By 3 August 1994, naval facilities having any Hazardous Chemicals (HCs) on-site in an amount equal to or greater than the amounts specified by OPNAVINST 5090.1 for an EHS requiring an MSDS, will submit copies of those MSDS's to the LEPC, SERC, and the local fire department with jurisdiction over the facility. Naval facilities may provide a list of the HCs grouped by hazard category in place of MSDSs.
- Section 312. Beginning 1 March 1995, naval facilities will begin submitting annual Emergency and Hazardous Chemical Inventory Form (Tier I or Tier II) for applicable HCs used during the previous calendar year, commencing with 1994.
- Section 313. By 1 July 1995, a naval facility that processes a listed Toxic Chemical (TC) as specified in OPNAVINST 5090.1, is required to submit individual release data, EPA Form R, for each applicable TC. The July 1995 submission will be for calendar year 1994 release data. Release data will be submitted each year in July/August for the previous calendar year.

The Navy is required to develop a 50 percent voluntary goal reduction of its total TC releases to the environment by December 1999. Using the 1994 EPA Form R, submitted by all naval facilities as an aggregate baseline, this total information will be used for the 50 percent goal and will be publicly reported. Reductions will be calculated and monitored through future EPA Form R reporting.

c. CHRIMP. CHRIMP is the methodology developed by the Navy to achieve life-cycle HMC&M and pollution prevention at an activity through centralized management of hazardous material. The Navy CHRIMP Manual provides a standardized

approach and provides guidance for the development and implementation of centralized HMC&M practices that result in reductions of HM that is procured, stocked, distributed, and eventually disposed of as waste. In the past, CHRIMP has used HICS to support the inventory management at the centralized ordering, receiving, storing, and issuing locations known as Hazardous Material Minimization Centers (HAZMINCENS). HSMS will be replacing HICS at all shore activities as the software to support the CHRIMP process. Experience with prototype implementations has shown that implementing HSMS simultaneously with CHRIMP requires a more incremental approach than at activities that have already implemented CHRIMP. Activities without CHRIMP would typically have the material module of HSMS implemented as they institute the centralized HM management business practices of CHRIMP. The P2 and Waste portions of HSMS would be implemented later as the CHRIMP operation becomes more mature.

d. "Fence line" Owners. Per OPNAVINST 5090.1 (Series), all Navy shore activities in the customs territory of the United States and in Guam must comply with EPCRA. The instruction specifies that the "fence line" owner is responsible for reporting for all tenants within their "fence line." That "fence line" is defined as the Class I property line. The "fence line" owner is the individual responsible for EPCRA reporting; consequently the HSMS database at that activity must capture all HM within that fence line in order to generate meaningful EPCRA reports. Historically, CHRIMP with HICS was implemented using supply principles since HICS is an inventory management system. While HSMS performs that same function, it is much more, incorporating other functions such as regulatory reporting, pollution prevention, and waste management. This may require substantial business practice changes at an activity in order to realize the full potential of HSMS. Some flexibility will be allowed in how an activity sets up HSMS, however, the activity must adhere to the basic principles of centralized management of HM/HW and incorporating that HM/HW into a database corresponding to the reporting "fence line."

d. Overseas Activities. NAVSUP intends to implement HSMS at overseas activities but assigns a lower priority to the effort. Even though there is no regulatory requirement for those activities to report to Environmental Protection Agency (EPA), HSMS provides additional benefits to the activity. First, it provides the tool necessary to manage hazardous material within the framework of CHRIMP and will replace HICS if the activity is using that software. As discussed above, it also provides a tool for P2 analysis and for developing

remedial actions. Lastly, it provides an activity the means to report HM/HW reductions as part of the Navy's overall objective to reduce releases of TC and EHS.

2. Implementation Support

a. Software. There are several software packages that are required to support HSMS implementation. The HSMS application is provided by DESCIM PMO. The HSMS application was developed by NCTAMSLANT for DESCIM and is government-owned and requires no licenses. It is provided at no cost to the military services. DESCIM is responsible for the life-cycle support of HSMS, which includes future changes to correct problems and to enhance the functionality. The remaining software and hardware discussed in Chapter 2 will be provided by NAVSUP.

b. Contractor Support. NAVSUP is providing contractor support to assist activities in the implementation process. NAVSUP is not providing a turnkey installation. The receiving activity will be responsible for numerous aspects of the implementation, consequently, the implementation requires a partnership between the Command and NAVSUP.

Once an activity reaches IOC, the responsibility for reaching Full Operational Capability (FOC) falls to the individual activity. NAVSUP will provide limited support in the following areas:

- The Hazardous Minimization Program Office (HMPO) for the activity's region will provide assistance and consultation to the activity to help them develop a Plan of Action and Milestone (POA&M) to achieve FOC.
- The Regional Implementation Coordinator (RIC) will assist the Regional Environmental Coordinator (REC) in organizing a regional support group. This group will consist of representatives from each activity in the region with HSMS. The purpose is to share information concerning HSMS and CHRIMP.
- If warranted by the complexity of the task, NAVSUP will provide limited contractor support to perform future software upgrades. Generally, the activity will be expected to perform upgrades in-house but in situations where the upgrade includes multiple changes, e.g., HSMS upgrade and Oracle upgrade, NAVSUP may provide the necessary contractor support.

- NAVSUP will provide limited contractor support in the form of phone consultation or in some cases, on-site support for HSMS problems. This support shall requested from the appropriate HMPO who will determine the required level of support and coordinate any required support with a government contractor.
- NAVSUP, through the HMPOs, is also providing Automated Information System (AIS) support within each region to assist activities after the system has been implemented.

c. Help Desk. NAVSUP will provide a HSMS Help Desk through the Management System Support Division (MSSD) of Naval Sea Systems Command (NAVSEA), located at the Portsmouth Naval Shipyard, Portsmouth, NH. The purpose of the HSMS Help Desk is to assist end users with application related questions. They will provide timely responses concerning day to day application issues and concerns. In the event that they are not able to resolve the end users questions and concerns, they will direct the end user to the appropriate personnel for a timely response.

When a user calls the HSMS Help Desk, the caller's comments and/or questions are recorded on a User Comment Form. In most cases, the caller's comments do not require a change to HSMS and can be resolved during the call or within 24 hours of the call. In these instances, the resolution is recorded and the comment is closed. In other cases, the comment requires action that potentially necessitates a change to HSMS software. In this case, a System Change Request (SCR) Form is filled out by the submitting facility that documents the issue or recommended change. The Help Desk comment is not closed until the resulting SCR submitted to DESCIM.

The HSMS Help Desk monitors statistics regarding help calls received so that problem areas and trends can be monitored and analyzed. Besides indicating needed changes to the software, help call trends may also indicate problems with HSMS documentation or training.

The HSMS Help Desk has established various client/server configurations to validate changes and fixes on new releases. Specifically, the HSMS Help Desk will ensure that documented changes and fixes are working as SCR submitter requested. They will also identify undocumented changes and fixes.

d. NAVSUP Staff. NAVSUP intends to make maximum use of HMPOs in Norfolk, VA, and San Diego, CA, to manage the

implementation process and to provide implementation direction and coordination through the RICs to the implementation contractor.

3. Receiving Activity Investment

a. Implementation Team. One of the most crucial elements of successful implementation and continuing operation of HSMS is an Activity Implementation Team (AIT). Whether it is called the HSMS Working Group, HSMS Process Action Team (PAT), HSMS Committee, or some other similar name, its purpose is the same, to plan for and to facilitate the implementation of HSMS at their activity. Each activity must have a central point of contact, which Chapter 3 and 4 of this document refer to as the activity Implementation Coordinator (IC). It is recommended that this activity IC chair the AIT at the activity. The receiving activity must be willing to appoint an Activity IC and an AIT and commit a sufficient amount of their time to ensure a successful implementation. At a minimum, the membership of this group should include representatives from the Supply, Environmental, Safety/OSH, and AIS Departments. This group should also be chartered by the Commanding Officer (CO) or Officer-In-Charge (OinC) of the activity with sufficient authority and resources to accomplish the tasks required of HSMS implementation as well as continued operation of the system after IOC. The membership of the AIT will be required to work closely with the REC, NAVSUP, the RIC, the applicable HMPO, and the implementation contractor to ensure a successful implementation.

b. System Administrator (SA)/Database Administrator (DBA). These two positions are important to the successful operation of HSMS. They are assignments that the Command must consider carefully. The SA is normally a person who does similar functions for other computer systems at the activity. He or she is primarily concerned with the operation of the network, connectivity of the clients to server, system backups and contingency. Typically, the SA is chosen from the AIS Department due to their job skills. However, the Windows NT network environment is new to many Navy activities so it cannot be assumed that all AIS personnel necessarily have the requisite experience and skills. Formal training may be required, such as the NCTAMSLANT provided Administration (SA/DBA) training outlined in Appendix F. The SA would be responsible for upgrading the system as new versions are distributed from DESCIM PMO to the Navy.

The DBA is primarily concerned with data integrity of the HSMS database. This individual must have a thorough understanding of HSMS as well as the Oracle relational database and utilities such as Enterprise manager, SQL Plus and SQL*NET. Additionally, they should be able to utilize the associated

DBA should be readily available to the HSMS users to provide in-house training, investigate and correct data errors, and be the activity point of contact for SCRs.

Both positions could require a significant training investment. Activities are encouraged to choose talented personnel who can take advantage of the training and who have sufficient expected longevity.

c. Computer Network Infrastructure. HSMS operates in a Windows NT network environment. NAVSUP will provide the server, some client workstations, and software as outlined in Chapter 2. HSMS requires a network to use the system to its maximum advantage. Where possible, existing network infrastructure and computer workstations will be used to supplement the system. Activities that have little or no network infrastructure are faced with several choices. The first is for the activity to install the necessary network infrastructure. The second connectivity choice is through Remote Access Service (RAS) which uses modems at both the server and client workstation. While RAS does allow remote access to HSMS, its speed is slower than a fixed cable configuration.

4. Master Schedule

a. Regional Approach. Implementation of HSMS throughout the Navy will be accomplished on a regional basis. Implementing regionally allows resources to be used more efficiently and reduces the travel costs for both NAVSUP and the contractor. Personnel can be moved around locally to

respond to each activity's specific implementation needs. Implementing activities regionally allows activity personnel to more easily observe the operations of neighboring activities and to better understand the implementation process. The relative close proximity of the activities in most of the regions will facilitate users group meetings and other similar functions.

b. Regions. The HSMS Regions were selected to coincide with REC Regions, which essentially mirror the regions used by the EPA. (See Table 3-I). Having a REC already in place will facilitate the evaluation process for selecting sites for implementation. This evaluation process will be discussed in more detail in the next section describing regional implementation.

c. Schedule. The chart in Appendix A shows the seven regions and lists the tentative activities scheduled for HSMS Implementation. It is important to understand that there are unique features about each region that will dictate exactly

the regional evaluation process is to identify those activities. Consequently, the schedule will change frequently as the implementation process moves from one region to the next and the list of activities for each region is developed and refined.

A timeline showing the approximate start and completion dates for each regional implementation can also be found in Appendix A. The implementation contractor will be providing support to NAVSUP for a variety of aspects of this project, including on-site contractor personnel assisting in the implementation process.

5. Regional Implementation

a. Regional Evaluation. The first step in implementing HSMS within a region is the process of evaluating the region in terms of what activities are within the region and which activities require HSMS. The generic regional POA&M found in Appendix B, allows four (4) weeks for this evaluation and assigns responsibility to one of the HMPOs to initiate the process. The initial step is to develop a list of all activities within the region. One of the HMPOs will provide a RIC to act as the NAVSUP representative to the region and to coordinate the implementations at each of the selected activities. The RIC may be the HMPO Manager or it may be one of his or her subordinates. The HMPO and RIC will consult with the REC for that region to develop the required information and to assemble a list of Points of Contact (POC) for the activities in that region. The HMPO, in consultation with the REC and individual POCs at the activities, will then determine who are the fence line owners, who will need HSMS, and who are the various tenants.

The second part of the regional evaluation process is determining the various business practices pertaining to hazardous material. Activities will be evaluated to determine the level of maturity of their respective CHRIMP programs. The types of information that the HMPO will need to obtain are as follows:

- Hazardous Material (HM)
 - How is HM procured within the activity?
 - How is HM specifically managed at each activity?
 - How do the activities administer their MSDSs for HM at their activity?
 - What is the approximate number of line items of HM at each activity?

- Does the activity use a local or Federally-based numbering system for identifying material?
- Hazardous Waste (HW)
 - How is HW managed within the activity? (i.e., DRMO, PWC, contractor)

The last part of the regional evaluation process is to estimate what the training requirements will be for the region and to determine if a central facility exists that would accommodate group training.

b. Activity Selection/Scheduling. The second phase of the regional implementation process is to select the activities for HSMS implementation and to develop a regional schedule.

Based on the information developed during the evaluation phase, activities that are fence line owners will be selected by the HMPOs for HSMS implementation. Individual state reporting requirements and local hazardous material and waste management practices may modify how each activity business practice is structured. The selection process will require an evaluation of each region to determine exactly how HSMS should be implemented in that region. Also, whether or not an activity is CHRIMP will factor into when an activity will be scheduled for implementation

c. Implementation Initiation. The third phase of the regional implementation process is to initiate implementation at the selected activities. This process will consist of a letter from NAVSUP to each selected activity, briefly explaining the purpose of HSMS, its impact on the activity, and what support will be provided by NAVSUP to achieve IOC which will be defined in Chapter 3, paragraph 5.e. of this manual. The letter will request a meeting with the CO and/or functional department heads to brief them in detail on the implementation process and obtain a commitment from the Command to support the implementation process.

d. Activity Implementations. The first three phases of the regional implementation complete the pre-implementation regional efforts and becomes Milestone 1 as well as a decision point for CNO and NAVSUP as to whether implementations within the region should commence. Once the decision is made to proceed, each activity's implementation will begin as per the regional schedule. The activity implementation processes are explained in the next two sections.

e. IOC. IOC is defined in OPNAVINST 5090.1 (Series), as the point at which an activity has acquired sufficient control

operation of HSMS at their activity. IOC at each activity will be defined in a Memorandum of Agreement (MOA) between NAVSUP and the activity. At a minimum, it will include the necessary hardware and software installed and loaded with a complete set of data for at least one work center that demonstrates and executes the functionality of HSMS. IOC is a minimum operational level. It does not represent a fully functioning HSMS where all of the information that the system will accept is complete for that activity and where all work centers or "customers" at the activity are incorporated into the system. Depending on the commitment and up-front efforts of each activity, e.g., if an activity is already fully CHRIMP, full implementation is possible within a 28 week timeframe but full implementation is not necessary to achieve IOC nor is it NAVSUP's goal to achieve full implementation during the 28 week assist period (38 weeks for non-CHRIMP activities). NAVSUP's intention is to only provide initial assistance and expertise to get HSMS functioning at a mutually defined minimal level at an activity. It will be up to the individual activity to assist with the implementation, before, during, and after the implementation period. The activity must continue with their own efforts after the contractor has finished their part, in order to eventually reach FOC. Each activity's implementation consists of various phases that are necessary to achieve IOC. For activities that are already CHRIMP, implementation consists of six phases that will require approximately 28 weeks to accomplish. For activities that are not CHRIMP, time is allocated for the activity to implement CHRIMP as part of the HSMS implementation process. Implementation at non-CHRIMP activities consists of eight phases and will require approximately 38 weeks to accomplish. [The complete POA&M for the 28-week cycle (CHRIMP activities) is contained in Appendix C]. The complete POA&M for the 38-week cycle (non-CHRIMP activities) is contained in Appendix D. The implementation process for CHRIMP activities is detailed in Chapter 3, paragraph 6. and the process for non-CHRIMP activities is detailed in Chapter 3, paragraph 7.

6. Activity Implementation Process - CHRIMP Activities

a. Phase I - Introduction. The introduction phase is designed to brief the Command and the Command's Department Heads on HSMS and the HSMS implementation process and then to get the CO or OinC commitment to support the implementation process. A total of three (3) weeks has been allocated for this phase. NAVSUP intends to tailor this process to the individual command. It is envisioned that at most commands, it may be more beneficial to conduct the initial briefing at a lower level of the command, i.e., for those activity personnel who will have day to day involvement with the system to be followed at a later time with a Command brief. This would allow for these personnel to become knowledgeable enough to

Command brief. The initial briefing(s) will also give the contractor an opportunity to conduct an initial Site Review to aid in planning for the Functional/Site Survey that is conducted as part of Phase II.

b. Phase II - Planning. The planning phase (5 weeks), involves the activity organizing their team to support the implementation and continuing operation of HSMS, and the contractor, visiting the activity and conducting a Functional/Site survey. The implementation and operation of HSMS requires a team effort. The system's implementation and operation will, at a minimum, involve the Supply, Environmental, Occupational Safety and Health (OSH), Public Works (Hazardous Waste Manager) and AIS functional areas of the Command. The activity shall develop a team of specific individuals with assigned responsibilities. This will include an activity IC as well as POCs for each of the functional areas mentioned above. NAVSUP will provide an Activity Information Questionnaire at the Command Brief that will guide the Command through this process. This questionnaire will facilitate the organization of an activity team and will provide the contractor with some preliminary information to help them prepare for the activity's Functional/Site survey.

The Functional/Site Survey will be scheduled by the RIC in coordination with the activity IC and will be conducted by government contractors. The purpose of the Functional/Site

Survey is twofold. First, it allows the contractor to brief the functional POCs that have been designated as part of the activity's HSMS implementation and operation team and to meet with them one-on-one to begin the process of identifying requirements and clarifying responsibilities. It provides the contractor with an opportunity to assess the condition and extent of the activity's data that may be used to populate HSMS. It also allows the contractor to collect as much data as possible for developing pre-load data for the activity's system. As an example, the contractor team will review the activity's MSDS files to determine what tasks the activity will need to accomplish to make the data usable. The contractor will also look for process information. If it does not exist they will help define what the activity needs to do to develop that data. The same procedure will be followed for other required data such as waste streams, authorized personnel, and authorized locations. Another important issue will be addressed at the Functional/Site Survey is what type of computer network is required to support HSMS and how it should be integrated with the activity's existing network, assuming the activity has an existing network. If a network does not exist, alternative configurations will be discussed. The activity and the government contractor will mutually agree to the network

workstations. Specific responsibilities for network preparation will be discussed and negotiated. If the activity has not already begun preparations using the NAVSUP AIM, the contractor will introduce the AIM to the facility and discuss how it can facilitate the implementation process for the activity reaching IOC and FOC. The AIM is intended to provide detailed guidance to the individual activity on what preparations they should be making in advance of HSMS implementation. The AIM endeavors to channel the activity's efforts into those areas of preparation that require activity specific information while discouraging efforts in areas that can be more efficiently executed by the government contractor. Since the AIM is designed to assist the activity before, during, and after the implementation cycle, activities will be encouraged to begin preparations before the NAVSUP scheduled implementation dates.

The outcome of the Functional/Site Survey should be that the facility should have a better understanding of HSMS and what is involved in the IOC and FOC implementation process. The facility should also have a clear idea of what tasks they must accomplish for HSMS implementation and the corresponding schedule dates. The Functional/Site Survey outcome will provide the activity and the government contractor with a work/task list that must be accomplished if HSMS is to be implemented on schedule. The government contractor should be provided with as much data as possible and a clear understanding of where the activity's weaknesses are so that they can direct their resources and implementation efforts accordingly.

Subsequent to the Functional/Site Survey, NAVSUP will enter into a Memorandum of Agreement (MOA) with the CO/OinC to formalize the responsibilities and agreements with regard to the implementation of HSMS to accomplish IOC. (see Appendix E for a sample MOA). The MOA will document the IOC concept that was developed during the Functional/Site Survey. Subsequent changes to the signed MOA will be documented using a MOA Addendum. (See Appendix E for a sample Addendum). The MOA and Addendum will provide a historical record of the implementation and will be useful in developing a plan of action to reach FOC. If the CO/OinC does not want to implement HSMS or wants to significantly delay the implementation for any reason, NAVSUP, in consultation with CNO, will decide if and when to reschedule that activity's implementation.

At the end of this phase, the RIC and HMPO will conduct an informal assessment of the progress to date and provide feedback to the activity. Based on the informal assessment, the HMPO will decide if the activity is ready to proceed to Phase III, Data and Equipment Preparation. This is Milestone

3 and a NAVSUP decision point.

c. Phase III - Data and Equipment Preparation. Phase III consists of accomplishing the tasks that were identified in the preceding phase. Additionally, planning of regional training is initiated.

Based on the MOA, the contractor begins tailoring an activity specific implementation POA&M during this phase. When completed, the activity specific POA&M and the AIM will give the activity the reference documents to assist them in the remainder of the implementation process. The activity POA&M will be tailored to the activity based on the information gathered during the Functional/Site Survey and will contain the dates and names that pertain to their implementation.

The Functional/Site Survey will identify the necessary equipment and software licenses provided by NAVSUP. The contractor pre-loads the operating system and tests the hardware and software prior to shipping. The contractor does not load the relational database or HSMS at that time. The relational database and HSMS are loaded during a later phase.

Another major task during this phase is the installation and configuration of the activity's computer network to support HSMS. The network configuration, designated client workstations and their locations were determined during the Functional/Site Survey.

At the beginning of this phase, the RIC works with the Activity IC to determine the required number of quotas for functionally specific HSMS User Training and SA/DBA Training that will be provided during the implementation cycle. (Outlines of both courses are found in Appendix E.) The RIC coordinates the classroom training with the HMPO East Office, which has been designated as the coordinating office for all of the Navy's HSMS training. The HMPO East office will in turn, coordinate with NCTAMSLANT to schedule dates for them to provide the training at a pre-selected regional training site. At the same time the RIC coordinates with the government contractor to establish the requirements and dates for On-the-Job Training (OJT) that is conducted after operating personnel have received their classroom training.

One of the major tasks that must be accomplished during this phase is the preparation of data to be preloaded in the activity's HSMS database. It was recognized early that data loading would be labor intensive and could account for a large portion of the implementation effort required of the activity and of the contractor. It was also recognized that much of the data is universal to all activities, i.e., many of the HM items that are purchased and used by one activity are used by

other activities as well. For these common items, the MSDS is the same, the Commercial and Government Entity (CAGE) code for (NSN) is the same. Additionally, many processes are common to more than one facility. Preexisting processes and process algorithms developed by other navy activities will provide a starting point for the activity.

As more activities implement HSMS, more common data will be accumulated to assist future HSMS implementations. The development of preload data for an activity's implementation is based on this premise. Consequently, the effort required to develop the data for an activity may not be as extensive as it first appears but the effort that is expended must be focused in the right areas. One of those areas that activities can focus their efforts on prior to and during implementation is the identification of an MSDS for each manufacturer's (CAGE specific) product in the activity's inventory. Depending on how an activity manages their MSDSs, the effort to identify a CAGE specific MSDS could be substantial. (See Chapter 5 for more details.)

The second area where an activity can facilitate implementation is in the identification of the various industrial processes used at the activity and the development of algorithms for those processes. A process defines the actual work that uses the material(s) and the waste stream(s) associated with a particular physical work procedure. HSMS uses internal algorithms to calculate release information for emission reporting. Portsmouth Naval Shipyard (PNSY) has identified and developed approximately 330 process algorithms for processes at their activity. To the extent possible, NAVSUP intends to use these algorithms to help populate an activity's database. Activities are encouraged to take advantage of PNSY's work and use as many of the existing algorithms as possible, or as a starting point for developing their own. However, algorithms must be activity specific and any algorithm used directly must be validated by the activity.

At the end of this phase, the RIC and HMPO will conduct a formal assessment of the progress to date and provide feedback to the activity. Based on the informal assessment, the HMPO will decide if the activity is ready to proceed to Phase IV, Equipment and Software Installation. This is Milestone 4 and a NAVSUP decision point.

d. Phase IV - Equipment and Software Installation.

During the hardware and software installation phase, the contractor is tasked with setting up and testing the equipment. This equipment may have been previously shipped to the activity or in the case of some regions, was stored at a single holding point under the control of the RIC. Working with the activity AIS POC, the server and clients are:

(1) installed at predetermined locations and connected; (2) the various software packages, i.e., Windows NT, the relational Intelligent Query (ad-hoc reporting software), and Seagull Scientific Bar Tender are installed; and (3) network connectivity is established. The HSMS application is then loaded along with a "training database" for the sole purpose of training activity personnel. The HSMS software will be reloaded during the next phase so any data created during this training phase will be overwritten. The contractor will document the type, serial numbers, etc., of the equipment being transferred to the activity and provide the information to the RIC.

Concurrently with the hardware and software being installed, classroom HSMS functional training should be provided. This is the desired sequence for the training, but in reality, due to quota availability and scheduled classes, the functional training may not occur simultaneously with the hardware and software installation. As a goal, the training should be scheduled as close to this event as possible. The contractor will provide one week of OJT to HSMS operators using their newly installed hardware and software immediately after installing their system.

This is a crucial phase that must be completed before the implementation process can proceed. It is essential that the system be installed and working correctly. It is also essential that operating personnel be trained in the use of HSMS since the government contractor will be fully engaged in data loading in the next phase and will have little time and resources to devote to training activity personnel.

At the end of this Phase, the RIC and HMPO will conduct a formal assessment of the progress to date and provide feedback to the activity. Based on the informal assessment, the HMPO will decide if the activity is ready to proceed to Phase V, Data Loading. This is Milestone 5 and the last NAVSUP decision point.

e. Phase V - Data Loading. The data-loading phase is the last effort required to achieving IOC at the activity. There are several related steps involved but this phase consists of populating the activity's database with data that has been gathered in previous phases, as well as data that must be obtained and entered on-site. The first step in this phase is to reload the HSMS software and remove any data that the activity created during their training. The activity's database, created by the contractor and containing as much site-specific data as possible, is loaded into the HSMS system to facilitate the data loading process. At this point, all HM in the activity's inventory is compared to the database, item by item, and if it is already loaded in the database, the

accuracy of the information is verified and corrected as logistical and MSDS information for all items not already existing within the database. Additionally, all of the hazardous material items in the database must be assigned to the site specific process(es) that use the material or to a process called "storage." This requires several different data entries to tie the material to a site-specific process, a cost center (shop, work center, etc.), and the personnel at that cost center that will be authorized to draw that material. A similar set of entries is required to tie the material to an appropriate waste stream.

Once all of the data is loaded, the contractor will then assist with a physical inventory to establish quantities and then enter that information into the database. The system is now ready to handle receipts and issues and support the operation of the HAZMINCEN. From this point the activity personnel can refine their processes and process algorithms, if necessary, add new customers.

f. Phase VI - HSMS IOC Follow-up. The first phase of the implementation process is called HSMS IOC Follow-up. This is a 6-week phase that allows for a brief visit by the contractor and the RIC to help with any problems that developed after the data loading personnel have departed. The maintenance of the system is a long-term task for the activity. The HMPO and the REC will assist the activity in developing a long term POA&M to help guide the activity to FOC. There are several other long-term processes that pertain to system maintenance. These have been included in Chapter 3, paragraph 8, Regional Post Implementation.

7. Activity Implementation Process - Non-CHRIMP Activities

a. Phase I - Introduction. The introduction phase for non-CHRIMP activities is essentially the same as described in Chapter 3, paragraph 6.a., except the discussions and briefings will also include the implementation of CHRIMP.

b. Phase II - Planning. The planning phase for non-CHRIMP activities is essentially the same as described in Chapter 3, paragraph 6.b., except the Functional/Site Survey will include the following additional tasks:

- The general philosophy of CHRIMP will be discussed.
- The specific CHRIMP tasks associated with the upcoming Phase III (CHRIMP Preparation) will be discussed.
- Potential sites for a HAZMINCEN will be identified and discussed with the activity personnel.

At the end of this phase, the RIC and HMPO will conduct an informal assessment of the progress to date and provide feedback to the activity. Based on the informal assessment, the HMPO will decide if the activity is ready to proceed to Phase III, CHRIMP Preparation. This is Milestone 3 and a NAVSUP decision point.

c. Phase III - CHRIMP Preparation. This phase is unique to non-CHRIMP activities. During this phase the activity will be engaged in the tasks necessary to establish CHRIMP. The activity should promulgate an instruction that captures the basic elements of CHRIMP and transmits a strong commitment to the Program. The instruction should include a CHRIMP organization, should assign responsibilities, and should include the business practices that are being established to facilitate CHRIMP, e.g., inventory control procedures, financial accounting, procurement responsibility. The activity must establish an Authorized Use List (AUL) for HM that is authorized for use at the activity. This is a starting point to enable the activity to centrally manage HM and will also be a starting point for developing the activity's HSMS database. Space and/or a building must be identified for a HAZMINCEN and any alterations or construction must be planned and executed. Additionally, personnel to operate the HAZMINCEN must be identified. Approximately nine weeks are programmed to complete the tasks in this phase. At the end of this phase, the RIC and HMPO will conduct an informal assessment of the progress to date and provide feedback to the activity. Based on the informal assessment, the HMPO will decide if the activity is ready to proceed to Phase IV, Equipment and Data Preparation. This is Milestone 4 and a NAVSUP decision point.

e. Phase IV - Equipment and Data Preparation. This phase includes the same tasks as Phase III for CHRIMP activities (See Chapter 3, paragraph 6.c.). Unlike CHRIMP activities, HSMS will be implemented incrementally at non-CHRIMP activities, i.e., the material module will be implemented first to allow the activity to commence CHRIMP operations and the P2 and waste modules will be implemented separately. In terms of establishing a local area network (LAN) for HSMS, this incremental approach provides more time for the activity to establish the LAN. Since the material module would normally only be used by the HAZMINCEN, the server and necessary client workstations could be temporarily set-up at the HAZMINCEN. Connectivity to other parts of the activity to facilitate implementation of the P2 and waste modules can come later in the overall process. During this phase, the RIC and HMPO will conduct an informal assessment of the progress to date and provide feedback to the activity. Based on an informal report from the RIC, the HMPO will decide if the

activity is ready to proceed to Phase IV, Equipment and Data Preparation. As explained above, the decision to go forward with equipment installation is not necessarily dependent upon the activity having a fully established LAN. This is Milestone 4 and a NAVSUP decision point.

e. Phase V - Equipment and Software Installation. This phase includes the same tasks as Phase IV for CHRIMP activities, except as explained above, the equipment installation may be split between this phase and a later one if the activity LAN is not ready. This is optional and will depend on the readiness of the activity. If the network is in place, usually all of the equipment would be installed in Phase V. If the network is not ready, the server and necessary client workstations can be installed in the HAZMINCEN to allow the HAZMINCEN to proceed with loading of the material module. At the end of this phase, the RIC and HMPO will conduct an informal assessment of the progress to date and provide feedback to the activity. Based on this informal assessment, the HMPO will decide if the activity is ready to proceed to Phase VI, Material Data Loading. This is Milestone 6 and the last NAVSUP decision point.

f. Phase VI - Material Data Loading. This phase is similar to Phase V - Data Loading for CHRIMP activities. This phase is a large effort that is necessary to load the required data for the activity to begin CHRIMP operations. By this time the activity has accomplished all of the tasks in Phase III, CHRIMP Preparation, and has also accomplished all of the tasks in the other phases that are their responsibility, except possibly, completion of the LAN. This phase consists of: assisting the activity HAZMINCEN personnel with collecting all HM from IOC customers, identifying the material, ensuring there is an MSDS available, loading the appropriate material data in HSMS, entering inventory information, and then initiating CHRIMP operations. The first step in this phase is to reload the HSMS software and remove any data that the activity created during their training. The activity's database, created by the contractor and containing as much site-specific data as possible, is loaded into the HSMS system. At this point, all of HM in the activity's inventory is compared to the database, item by item, and if it

is already loaded in the database, the accuracy of the information is verified and corrected as necessary. A new record must be developed requiring logistical and MSDS information for all items not already existing within the database. Once all of the data is loaded, the contractor will then assist with a physical inventory to establish quantities and then enter that information into the database. The system is now ready to handle receipts and issues and support the operation of the HAZMINCEN.

g. Phase VII - CHRIMP Refinement/Additional Data Loading.

This is another phase unique to non-CHRIMP activities. This phase is approximately 12 or more weeks in length. This time allows the activity's CHRIMP operations to mature in terms of refining business practices as well as possibly bringing in additional customers. If necessary, it also allows time for the activity to complete their LAN. Concurrently, the contractor will be working with the activity IC and Activity Environmental POC to identify processes and waste streams related to the IOC customers. When this information is fully developed, the contractor will link material with the processes and to waste streams in the HSMS database. Once all of the client workstations are in place and the P2 and waste modules of HSMS are populated for the IOC customers, the activity is at IOC.

h. Phase VIII - HSMS IOC Follow-Up. This phase is identical for both CHRIMP and non-CHRIMP activities.

8. Regional Post Implementation

a. Regional Requirements. Regionally, a support group will be organized by the RIC as soon as the region's implementations begin. The purpose of this group during the regional implementation is to allow activities to exchange ideas with each other and to facilitate each activity's implementation and the regional implementation as a whole. As the regional implementation nears completion, the administration of this group will be transitioned to the REC. The focus of the group should then change to issues such as improving HSMS, integrating HSMS with the Regional Hazardous Material Management System (RHMMMS), software upgrades, training, and reaching FOC as a region.

b. Activity Requirements. Once an activity reaches IOC it should then develop a plan to reach FOC. NAVSUP, through its HMPOs, will assist the activity in developing a long-range plan to accomplish FOC. Activities that have fully functioning HAZMINCENS, servicing all customers at an activity, will require less time and effort to reach FOC. The task will involve capturing all other hazardous material outside of IOC. This may involve various work centers and/or tenants.

The individual activity using HSMS on a daily basis is the best source for identifying potential system improvements. Activities should take this responsibility seriously and submit SCRs through their HSMS implementation POC whenever they have ideas for system changes and/or enhancements. SCR submission is covered within Chapter 6. Additionally, the SCR form along with the associated instructions is in Appendix H.

CHAPTER 4

ROLES AND RESPONSIBILITIES

1. Organization. The organizational structure put in place at Naval Supply Systems Command (NAVSUP 4C3) to implement HSMS is depicted in Figure 4-1 below.

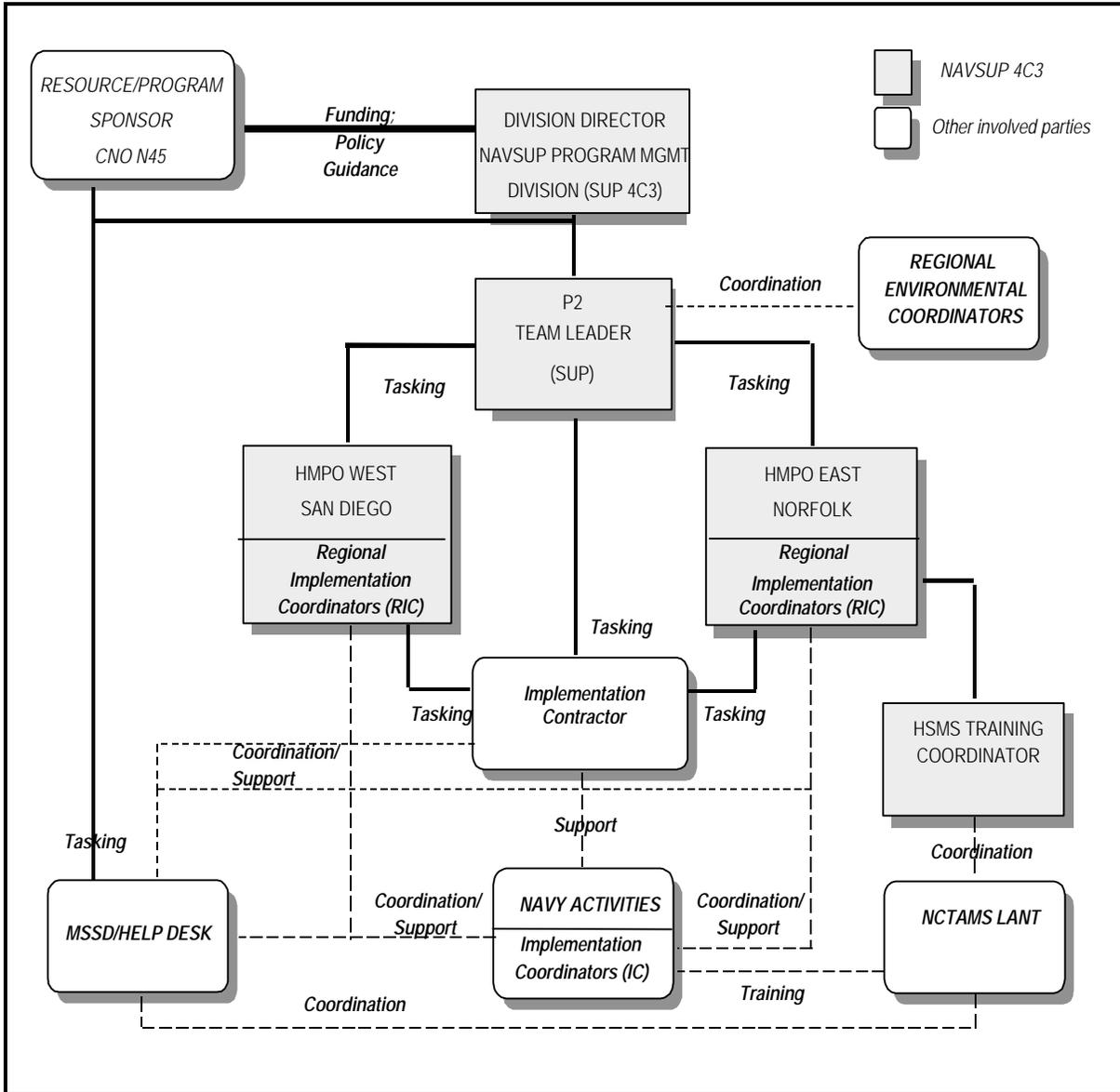


Figure 4-1 NAVSUP HSMS Implementation Organization

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2. Roles and Responsibilities. Table 4-I outlines the roles and responsibilities of the main parties involved in the HSMS implementation process.

Table 4-I Roles and Responsibilities

ORGANIZATION	ROLE	RESPONSIBILITY
1. DESCIM PMO	Program Office for development and control of HSMS software.	<ul style="list-style-type: none"> - Manages functional, technical, and developmental changes to the HSMS software. - Chairs the HSMS Functional Users Group within the Department of Defense (DOD). - Administers version control and software distribution of the system.
2. CNO (N45)	<p>Implements Navy P2, CHRIMP, HMC&M, and HSMS.</p> <p>Provides overall Navy program policy and management for HSMS.</p> <p>Designates the "Executive Agent" for the implementation of HSMS.</p>	<ul style="list-style-type: none"> - Develops and promulgates policy for shore activities on implementing CHRIMP and HSMS as part of the larger HMC&M program. - Delegates authority to the "Executive Agent" for HSMS implementation Navy-wide. - Acts as the resource sponsor for the implementation of HSMS Navy-wide and funds implementation support. - Acts as the CNO Assessment Sponsor for the implementation of HSMS as part of the HMC&M program. - Establishes and chairs the Navy HSMS Steering Group.
3. NAVSUP PROGRAM MANAGEMENT AND REGIONALIZATION DIVISION - NAVSUP 4C3	<p>Tasked as "Executive Agent" by CNO for the Implementation of HSMS within the US Navy. Head of the NAVSUP Program Management Division within NAVSUP Headquarters, Mechanicsburg, PA. Designated by COMNAVSUP as the Program Manager for the implementation</p>	<ul style="list-style-type: none"> - Responsible to CNO (N45) for the successful implementation of HSMS at all prescribed activities. - Liaisons directly with CNO (N45) on issues relating to HSMS Implementation. - Acts as the official Navy POC to DESCIM PMO for HSMS Programmatic issues. - Briefs the HSMS Steering Group chaired by CNO (N45) on HSMS implementation progress and issues. - Signs Memorandum of Agreement (MOA) with selected activity Commanding Officers for

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	of HMC&M within the Navy.	<p>HSMS Implementation.</p> <ul style="list-style-type: none"> - Manages support contract with the implementation contractor.
a. HSMS IMPLEMENTATION MANAGER (IM) - NAVSUP 4C3	NAVSUP 4C3, CHRIMP Branch Chief. Member responsible for the field implementation of HSMS.	<ul style="list-style-type: none"> - Acts as NAVSUP 4C3 Project Officer for HSMS implementation. - Coordinates the HSMS implementation schedule. - Coordinates HSMS information dissemination through activity Commanding Officer, Executive Officer, and user briefs. - Briefs Commanding Officers, Executive Officers and Functional Department Heads at Naval Activities selected for implementation. - Coordinates procurement of hardware and software to support HSMS implementations. - Coordinates and chairs the quarterly HSMS Implementation Status Meeting. - Briefs the HSMS Steering Group chaired by CNO (N45) on HSMS implementation progress and issues. - Represents NAVSUP 4C3 in all HSMS implementation forums. - Recommends changes and updates to the HSMS AIM and the HSMS Implementation Management Plan (IMP) to NAVSUP 4C3. - Directs HMPO Directors in HSMS implementation matters. Assigns responsibilities for HSMS implementation in prescribed regions. - Tasks the implementation contractor in HSMS implementation matters.
b. HMPO DIRECTOR	Managers of NAVSUP 4C3 field offices for HMC&M support. Reports to SUP 4C3 in HSMS implementation matters.	<ul style="list-style-type: none"> - Assigns subordinates as RICs for regions within their area of responsibility. May act as the RIC for selected regions. (See responsibilities below). - Provides HSMS implementation support to

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	<p>Assigns and directs RICs. Interfaces with Activities, HSMS IM, RECs, and the implementation contractor. Offices located in San Diego, CA, and Norfolk, VA.</p>	<p>Activities within their area of responsibility.</p> <ul style="list-style-type: none"> - Works with the REC and HSMS IM to perform regional evaluations and to select activities for HSMS implementation. - Coordinates HSMS classroom training (Overview and Administration) for regional implementations. (HMPO East coordinates all formal HSMS training.) - Conducts Milestone Assessments. Provides feedback to the implementing activity. Makes Milestone decisions. - Assists activities with developing a POA&M to achieve FOC. - Coordinate follow-up site visits within each prescribed region. - Tasks the implementation contractor in HSMS implementation and HMC&M matters. - Assists activities in implementing CHRIMP programs.
<p>c. NAVSUP HSMS RIC</p>	<p>Reports to the HMPO Director. Coordinates HSMS implementation within the assigned region.</p>	<ul style="list-style-type: none"> - Acts as NAVSUP Project Officer for all HSMS implementations <u>within a region</u>. - Works with the HMPO and REC to perform regional evaluations and to select activities for HSMS implementation. - Coordinates and participates in briefings to COs, Executive Officers (XOs) and Functional Department Heads. - Coordinates and participates in Functional/Site Surveys. - Coordinates HSMS classroom training (Overview and Administration) for regional implementations. - Coordinates HSMS OJT provided by the implementation contractor. - Conducts milestone assessments. Provides feedback to the implementing activity and

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		<p>recommendations to the HMPO Director.</p> <ul style="list-style-type: none"> - Works directly with the Activity IC to ensure that HSMS IOC is achieved in the prescribed time. - Organizes the regional support group. - Disseminates HSMS implementation information to all regional activities. - Controls the hardware delivery process for the region. - Tasks the implementation contractor in HSMS implementation matters.
5. NCTAMSLANT	HSMS software, hardware, and training support.	<ul style="list-style-type: none"> - Provides computer hardware procurement services to NAVSUP. - Provides formal classroom training for HSMS to Navy activities. - Develops and upgrades HSMS software at the direction of DESCIM PMO.
6. RECEIVING FIELD ACTIVITY		
a. COMMANDER (CDR), CO, or OinC	Activity Commander	<ul style="list-style-type: none"> - Responsible for the regulatory reporting of the entire Activity and all Navy Tenants inside of the "fence line". - Responsible for the successful implementation of HSMS within his/her "fence line". - Signs MOA with NAVSUP regarding HSMS implementation. - Directs all Functional Department Heads for a successful HSMS implementation. - Establishes an activity HSMS Implementation Team, PAT, committee, etc., to manage and oversee HSMS implementation and operation. - Appoints an activity Implementation Coordinator to act as the overall Project Officer for HSMS implementation at the activity.
b. ACTIVITY	Appointed by the CDR,	<ul style="list-style-type: none"> - Chairs the activity HSMS Implementation

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<p>IMPLEMENTATION COORDINATOR (IC)</p>	<p>CO, or OinC as the Project Officer for HSMS implementation and operation at the activity.</p>	<p>Team, PAT, Committee, etc.</p> <ul style="list-style-type: none"> - Coordinates with the RIC, and/or the implementation contractor on HSMS implementation issues. - Coordinates responses to HSMS Questionnaires where applicable. - Coordinates with the implementation contractor and/or RIC to identify and obtain HM data for HSMS upload. - Coordinates HSMS training with HMPO East. - Appoints the HSMS Database Administrator (DBA). - Coordinates recommendations for HSMS system improvements. - Coordinates input to and assists with the development of an activity specific implementation POA&M.
<p>c. SUPPLY</p>	<p>Procurement authority for HM within a given Activity.</p>	<ul style="list-style-type: none"> - Designates a Supply POC for HSMS implementation. - Establishes a single point for all ordering/receiving/issuing of HAZMINCEN if one does not already exist. - Coordinates with the Activity IM on HSMS implementation issues. - Responds to HSMS questionnaire where applicable. - Assists the implementation contractor with the identification of pre-load data sources. - Assists the implementation contractor with obtaining HM data for HSMS upload. - Identifies personnel for HSMS training. - Recommends HSMS improvements. - Assists with development of the activity specific implementation POA&M.
<p>c. ENVIRONMENTAL</p>	<p>Manages all environmental issues on a given Activity.</p>	<ul style="list-style-type: none"> - Designates an Environmental POC for HSMS implementation - Coordinates with the Activity IC on HSMS

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		<p>implementation issues.</p> <ul style="list-style-type: none"> - Responds to HSMS questionnaire where applicable. - Assists the implementation contractor with the identification of pre-load data sources. - Assists the implementation contractor with obtaining HM data for HSMS upload. - Identifies personnel for HSMS training. - Recommends HSMS improvements. - Assists with development of the activity specific implementation POA&M.
<p>d. AIS</p>	<p>Supports AIS systems at the Activity. Manages LAN within an Activity and provides customer service.</p>	<ul style="list-style-type: none"> - Designates AIS POC. - Designates System Administrator. - Coordinates with the Activity IC on HSMS implementation issues. - Responds to HSMS questionnaire where applicable. - Makes recommendations concerning HSMS hardware requirements. - Assists the implementation contractor with determining location of sites for HSMS terminals. - Establishes space, power, communications, equipment requirements, and prepares sites. - Ensures installation of communication network (LAN connections). - Reports LAN installation complete to the implementation contractor, the HSMS IM, and the RIC. - Assists the implementation contractor with all HSMS equipment installations. - Establishes network client/server connectivity. - Assists the implementation contractor with the identification of pre-load data sources. - Assists the implementation contractor with obtaining HM data for HSMS upload.

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		<ul style="list-style-type: none"> - Identifies personnel for HSMS training. - Recommends HSMS improvements. - Assists with development of the activity specific implementation POA&M.
<p>7. MSSD/HSMS HELP DESK</p>	<p>Assists CNO and NAVSUP in HSMS project management by providing functional and technical support and operates the HSMS Help Desk.</p>	<ul style="list-style-type: none"> - Researches and interacts with hardware vendors to provide guidance concerning maintenance and upgrades on existing products as well as investigating new products and technical needs to support and improve the HSMS program. - Interfaces with NCTAMSLANT to discuss and define the functional and technical needs of HSMS for differing field groups and end user requirements. - Conducts hardware and software testing and evaluation. - Initiates SCRs to correct errors discovered in the basic programming of HSMS or to effect recommended system enhancements and assists Navy shore activities with the preparation of their SCRs as necessary. - Receives, controls, reviews, and coordinates all Navy SCRs. Maintains a master record of all Navy SCRs for proper formatting and ensures elimination of duplicate entries or combining, resolving or restating initial draft SCRs to best represent the intent of the stated problem or issue. - Recommends to NAVSUP and CNO the relative priority to address outstanding SCRs. - Establishes and maintains a HSMS Help Desk to receive telephonic, electronic, mail, and e-mail queries regarding technical and functional questions about HSMS and maintains a historical record of the nature and type of inquiries to develop trends and analysis regarding programming issues.

		- Assists NAVSUP to initiate and perform hardware and software procurements.
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CHAPTER 5

HSMS IMPLEMENTATION PREPARATIONS

This chapter will discuss how the actual implementation of HSMS might progress at a facility, and what the facility should be doing in preparation for the implementation. Procedures employed in preparation for, and during, the initial implementation of HSMS will be very similar to post-implementation procedures when the facility develops data for new customers and integrates these new customers into the system.

Most of this chapter will center on how to acquire and load data into the HSMS tables that are necessary to implement, as distinguished from operate HSMS. Conceptually, it may be useful to envision HSMS tables in three general categories:

- Static Tables. Tables provided with the HSMS application software.
- Data Tables. Tables that store information relevant to the activity but does not reflect business operations and transactions.
- Operational Tables. Tables that store the dynamic transactions of the daily hazardous materials/hazardous waste business. Examples might be recording issues and receipts or moving waste containers.

This chapter concentrates on the first two categories.

1. CHRIMP/Business Practice Integration with HSMS. HSMS has been developed to integrate a management model that includes: (1) HM management, (2) P2, (3) HW management, and (4) environmental reporting. HSMS is a key-supporting component of CHRIMP.

Perhaps the most important single function an activity can institute in preparation of HSMS is centralized management of their HM inventory. The financial benefits (direct savings and cost avoidance) and safety enhancements (reduced risk) realized from a fully functional, base-wide HM management program are considerable. If CHRIMP has not been previously implemented, this payback justifies immediate actions.

CHRIMP will greatly assist an activity with its HM/HW Management EPCRA Program and business practices. One of the most challenging aspects of HSMS implementation is to adapt HSMS to the activity's existing business practices.

a. The Base-Wide Perspective. There are compelling regulatory and practical reasons to implement HSMS on a fence line basis (see Chapter 3, paragraph 1.d.):

From a legal or regulatory point of view, the U.S. EPA "sees" a DOD installation as a single entity with no distinction or allowance made to recognize tenant commands and activities within the fence line. Therefore, EPCRA reports must reflect everything that occurs within the "fence line": all inventories, all releases. There is seldom more than one EPA ID number for a base/installation, and that number is "owned" by the base commander or host command.

From a practical point of view, risks are minimized and savings maximized by a wholesale (fence line) centralization of HM and HW management. More users in the "HM/HW pool" will optimize HM inventories, maximize reuse opportunities, minimize HW generation, maximize HW consolidation capabilities, and minimize HW disposal and shipping costs.

b. Business Practice Decisions. HSMS has the capability to manage and monitor HM and HW in various configurations. The Activity HSMS IC must specify how some particular options will be set (configured) in HSMS. Most of these settings will be selected in the "global.ini" file. Early in the implementation process, NAVSUP and the HSMS support contractor will discuss with the Activity IC, various options and recommendations for the various "global.ini" settings. These discussions will culminate in written direction to the HSMS support contractor for the settings. The form for this written direction is provided to the Activity IC in the Implementation Guide. In particular:

- Unique Serialization. Yes or No. HSMS has the capability to assign, and track by, a unique serial number recording and tagging the issue of each HAZMAT container. Selection (Yes) of this feature is not recommended because it may significantly increase the workload of inventory management personnel and may slow transaction processing times. Deselecting (No) of this feature is recommended for most installations.
- Use of Social Security Number (SSN) as Personnel identification (ID). Yes or No. The activity may choose to use SSNs for individual personnel identification numbers. If this option is selected, HSMS will automatically generate Privacy Act statements on relevant screens and listings. There are other alternatives (local assignment or HSMS generation of ID numbers) to this procedure that are generally more acceptable to an activity. Accordingly, deselecting (No) of this feature is recommended for most installations.

- HSMS Generated Personnel ID Numbers. Yes or No. Selection (Yes) of this options will provide HSMS generated codes for personnel identification numbers. It is normally easier for an activity to assign Personnel ID numbers locally, so deselecting (No) is recommended for most installations.

c. Conventions and Default Values. The Activity HSMS IC must create or approve some conventions to follow when creating cost center codes, personnel ID numbers, inventory locations, work sites, waste stream names, and site specific processes. In addition, some decisions are necessary to establish default values within HSMS. Conventions and defaults will be discussed frequently throughout the implementation process. As NAVSUP (or their support contractor) and the Activity agree upon particular convention and default values, the Activity IC will be asked to acknowledge those conventions and defaults on a form provided in the Implementation Guide.

(1) Naming and Numbering Conventions. The HSMS database contains a wealth of information that can be used for various informational reports, P2, and HW management purposes. The primary method for obtaining data other than HSMS embedded reports is via ad hoc report generator (IQ for Windows). Each activity must develop a naming and numbering convention plan. It adds intelligence to the data to support queries and ad hoc report generation. Naming and numbering conventions, once established, must be consistent for all activities within the fence line. The contractor project officer or implementation team leader can provide some guidance and assistance in developing these conventions.

(2) Default Values. HSMS requires the establishment and acceptance of several default values. Some of these values are required as part of the initial system setup and must be loaded in the "global.ini" file, while others are less formal and assigned for expediency in the preparation of the database.

- **"Global.ini" file default values.** These are discussed in Appendix A of the HSMS User Manual.
- **Other default values.** HSMS has many mandatory fields. In the event that you can not provide this data, it would be beneficial to have a pre-selected set of reasonably acceptable values to enter into these data field. These situations will be discussed and agreed upon between the activity and the contractor personnel populating the HSMS database.

2. Preliminary Data. The contractor will identify the types of data required to implement HSMS. In anticipation of implementing HSMS, facilities should help identify potential sources of relevant information that will be needed during the implementation process and that may be used for the HSMS database.

a. POC. Chapter 4 identifies some of the roles and responsibilities within the "Receiving Field Activity." Early identification and designation of key HSMS personnel, along with the continuity of these assignments are critical to the successful implementation of HSMS. The Activity HSMS IC will be asked to complete an Activity Information Questionnaire identifying points of contact very early in the implementation process.

b. Sources of Data. "Populating" the HSMS database is demanding and one of the most critical aspects (along with training and equipment support) of implementing HSMS. The data contained in the HSMS database must come from many sources and must be sufficiently accurate to meet the management and report features of the system. Much of the HSMS implementation period will be spent identifying existing relevant automated information systems at the facility, collecting data, and then manipulating it to conform to the HSMS database. One of the primary goals during the implementation period will be to minimize the necessity to manually input information into the HSMS database.

In general, if the electronic source of HSMS-relevant data is believed to be sufficiently reliable and complete, the contractor will extract and load the information. Unfortunately, these potential electronic sources (for example, a HICS inventory file, HMIS data, an AUL, or previously prepared CAS/CAGE/MSDS data) may not be entirely accurate or complete, so errors or inconsistencies from these sources may possibly be replicated in the HSMS database. The contractors will attempt to correct these potential data problems but the site should also be aware of a responsibility to review existing and pre-loaded data to ensure that they are satisfied with the quality of the data. These inconsistencies and errors may frequently lead to aggravating situations, and result in the reporting of extraneous and inaccurate data.

There are some resources that have proved to be particularly valuable sources of essential HSMS data:

- MSDS files. The facility's MSDS library is an invaluable and essential source of HSMS relevant data. Accurate and complete MSDS records are required to support the base HAZCOM (29 CFR) program so this information may be available at the Safety Officer's Office.

- AULs. Any listings identifying and associating hazardous materials with authorized work sites.
- Hazardous Materials Inventory Management Databases.
- P2 Plans.
- HW Management Information.

c. Quality of Electronically Loaded Data. Some concerted reasonable efforts are made to evaluate and improve the quality of electronically loaded data. These include:

- Consideration of the source of data. "Official" sources, such as FEDLOG and HMIS, are presumed accurate and complete. While this presumption is realistically not entirely correct, sources such as these are usually the same source that would have been used to acquire the data for a manual data-loading effort. The first choice of data sources for HSMS will always be an official database, such as FEDLOG or HMIS. Data acquired from an activity will be used to extract information from official sources and to augment/support tables created from these sources. Data acquired from other sources (such as another activity) will be at the option of the activity and, even then, only after some reasonable QA checks have been made.
- Evaluation of data not available. Even the best sources of data may not have all the data needed to complete an HSMS table. Frequently, some assumptions must be made to complete an HSMS table when incomplete information is available. The missing data is evaluated with respect to its relative importance to the HSMS system, whether some reasonable and realistic default value can be assumed/inserted, and the overall impact of using these default values to "fill in the blanks."
- Electronic QA screening. On occasion, data fields in HSMS will follow some predictable format, which will allow an electronic evaluation of the data, accumulated for entry into HSMS. If some predictable format exists (such as the check-digit to validate a CAS number or an established value range for some physical properties), then an electronic validation will be conducted.
- Replication of erroneous data. The use of various sources of data to prepare HSMS data may result in replication of incorrect data. The activity and the Government implementation contractor must make a concerted effort to minimize the inclusion of erroneous and inaccurate data into the HSMS database.

3. Administrative and Reference Data. The HSMS database will contain extensive tables of an administrative and reference nature. Some tables come with the HSMS program and are referred to as Static Tables. All other tables used to support or operate HSMS will require some external action to collect the data and populate the database.

a. Administrative Data. Administrative data is contained in the Administrative Module of HSMS. In the Administrative Module are the Form R and Tier I/II reports, static tables, and the "Users" Table.

(1) Static Tables. Static Tables contain information that comes from established or directed sources and is universally applicable to all HSMS users. Further, they seldom vary over time. Examples of static tables from established sources are the standard 2-character U.S. Postal Service-assigned codes for the states, and the standard DOD Units of Issue codes. Static tables may also be derived from directed sources such as a Code of Federal Regulations or an EPA directive describing the format of a report. While most users of HSMS may have access to these tables, the ability to alter them will generally be restricted to the Activity HSMS Database Administrator (DBA).

(2) Users Table. One of the security features of HSMS is user access control. Login to the system is controlled via a private password associated with each login name. The Users Table, a data table located in the Administrative Module, provides the capability to restrict users to certain areas and functions within HSMS. Prior to the initial implementation of HSMS, the Activity HSMS IC should consult with all prospective users of HSMS to determine the extent or level of access required. This is an extremely important feature and an aspect of HSMS that must be considered right from the onset of HSMS implementation. Lack of controls or unrestricted access to the various HSMS tables will rapidly lead to database corruption and the inability of HSMS to perform as intended. The activity is normally responsible for collecting the information and populating this table.

b. Reference Data. Reference Data is contained in the Reference Module of HSMS. Reference data is specific to the facility or installation and will require considerable effort on the part of the facility to assemble and provide this data in an HSMS format. The Reporting Facility table will require detailed information relative to the "fence line" owner. Other important data tables in this module are cost centers, locations, addresses, and personnel. Reference data tables provide critical links and associations throughout the HSMS relational database and are among the first tables populated. To gather this information, a variety of worksheets, questionnaires, and data collection tools have been developed

and will be delivered to the Activity HSMS IC very early in the implementation period. It is essential these worksheets, questionnaires, and data collection tools be prepared completely and accurately and returned to the implementation contractor as quickly as possible.

(1) Reporting Facility Data. An Activity Information Questionnaire will be provided to the Activity HSMS IC to complete with information pertinent to the facility/ installation "fence line" owner. This questionnaire is also used to list the HSMS points of contact (Chapter 5, paragraph 2.a.) and should be returned to the implementing contractor as quickly as possible.

(2) Cost Centers, Locations, Personnel, Addresses. Timely collection of cost center, location, personnel and address information by the Activity is critical to early stages of database development. Transactions (e.g., receipts and issues of material) in HSMS cannot be performed until these reference tables are populated. Consequently, administrative reference data should be available to the implementation contractor at least two weeks prior to on-site data loading. The implementation contractor has developed an MS-Excel spreadsheet to act as a template for collecting this data. The spreadsheet template will be provided to the Activity and reviewed during functional surveys (POA&M Task 1.2.8). HICS and AUL database files can typically provide input when compiling the HSMS reference information. The Activity should not underestimate the importance of or time required collecting and refining the reference data because it can become a bottleneck in successfully building the HSMS database.

(3) Courses, Equipment, and Training. The HSMS Reference Module contains tables the activity can use to maintain training records and requirements. Equipment requirements, especially PPE, and equipment training information for personnel can also be maintained. Use of these tables may be a desirable option to the activity, but they do not have to be completed or available to implement the HSMS. Since the use of these tables is optional and not required for initial implementation of HSMS, population and maintenance of them is the responsibility of the activity.

4. Supply and Material Data. The HSMS database contains extensive tables to support and operate the system's inventory management and EPCRA reports capabilities. These tables are contained in the Safety and Materials modules of HSMS. Most of these data tables will require some external action to collect the data and populate this portion of the database. Using the data available and collected (see Chapter 5, paragraph 2.b.) from the facility, most relevant data can be preloaded into the activity HSMS database by the contractors support personnel.

a. "Semi-static" Tables. Fortunately, not all tables must be built "from scratch" and procedures have been developed to draw upon efforts from earlier implementations. There are several large and detailed data tables that contain information of common value to all users and, once they have been built or populated, they can be used for subsequent implementations without extensive modification or adaptation. The contractor has compiled and prepared a comprehensive library of these tables and will provide them in the activity database in much the same fashion as static tables are provided. These "semi-static" tables can not provide every piece of relevant information the activity may require, but they will dramatically reduce the data entry effort by providing a solid foundation of data in some particular categories. Additions, modifications, and changes will be required and may be entered by the activity or contractor personnel. Some of the most common and useful semi-static tables are:

- **Manufacturers.** The preloaded manufacturer table virtually eliminates the need to load manufacturer data into a database. Historically, over 95 percent of the manufacturer information required by an activity has been available within this preloaded table.
- **CAS.** HSMS uses the Chemical Abstract Service (CAS) numbering system to identify and track chemical constituents of hazardous materials. The CAS is a unique number associated with a specific chemical and its properties. The preloaded CAS table drastically reduces the requirements to enter CAS information into the database. Historically, over 85 percent of the CAS information required by an activity has been available within this preloaded table.
- **Container Codes and DOT Hazardous Material Identification Numbers.** These tables are found in the Waste Module and are preloaded with standard codes. They will satisfy virtually all of an activity's requirements in these categories.

b. Material "Big Three" Tables. Three critical data tables form the base from which all HSMS inventory management functions are created. They are the National Stock Number (NSN) table, the Master Inventory/AUL/MSDS table, and the MSDS physical properties table. These tables must be "built" or "populated" to represent hazardous materials at the activity. They are activity specific and can become very large. The building of these three tables is probably the single most time-consuming and labor-intensive function of the implementation process, and is an absolute requirement for

inventory management functions. The contractor will load most of the information required to support these tables during the pre-load and on-site phases of the HSMS implementation.

(1) NSN Tables. In order to build the NSN table, you must know, by NSN, what hazardous materials are may be physically present (received, stored, issued, or used) at the facility. One way to find this information would be to conduct a comprehensive activity-wide inventory. Generally there will be records available to provide most of this information.

(2) Physical Property MSDS Table (Specific MSDS). HSMS's capability to produce and monitor the data required for the EPCRA Tier I/II and Form R (TRI) reports rests with its ability to divide hazardous material products into their component or constituent chemicals. This is accomplished by taking advantage of the chemical constituent information found in a product's MSDS. The HSMS MSDS table contains information extracted from an appropriate MSDS. HSMS does not require the full MSDS and attempts by the activity to load the entire MSDS data into HSMS are strongly discouraged. The extracted MSDS data contained in HSMS is sufficient to allow calculations of the hazardous chemical (as identified by its unique CAS Number) compositions by weight, found in a unit of use of a hazardous material product.

Populating the HSMS MSDS table (and accompanying Chemical Ingredients Percentages Information table) can be a complicated and time-consuming procedure. First, the MSDSs for all hazardous materials present must be identified. Then, access to the correct MSDSs (or certain applicable MSDS data) is necessary in order to extract the required data for the HSMS table. And finally, the appropriate data from the MSDS to the HSMS record must be *located* and entered (transcribed). The difficulty in actual data entry may be further exacerbated by the presence of two mandatory data entry fields: a manufacturer's CAGE (Commercial and Government Entity) identification code and at least one CAS Number. If your Manufacturers and CAS tables (see Section 5.4.1) are sufficiently inclusive and accurate, then these entries are simple. But if the corresponding manufacturer and CAS information are not supported (i.e., not already loaded or present) in their respective tables, then a complete and new manufacturer or CAS record must be prepared before proceeding. This could require extensive research time and effort.

Because of the complexity and time required to populate the HSMS MSDS database, it is vitally important to be able to build upon the efforts of others by using previously developed HSMS MSDS records. In order to do this; there must be a common and universal identification system. The DoD Hazardous Materials Identification System (HMIS) provides this

capability as follows: (1) it is universally available, (2) it assigns a unique number to each MSDS, and, (3) it is based upon DoD hazardous materials usage. For this reason, the "lead" MSDS identification number in HSMS is almost always derived from HMIS, assuming the MSDS is contained in the HMIS database. HSMS will allow the use of up to three corresponding MSDS numbers, so if an activity is using a locally prepared MSDS identification system, the HMIS and local number can be cross-referenced to the same MSDS.

(3) Master Inventory/AUL/MSDS Table. The last part of the "Big Three" triad is the Master Inventory table. This is a deceptively simple table but it serves a very large purpose in HSMS. It ties a NSN (product) to an MSDS (manufacturer, chemical constituency). The Master Inventory table effectively increases the number of "line items" in an activity's hazardous materials inventory by allowing the tracking and monitoring of inventories by *manufacturer specific NSNs*. For example, if a particular NSN has shelf inventories manufactured by six separate manufacturers (with six separate MSDSs), then HSMS treats these inventories as six separate and distinct products. Note that this is an internal accounting performed by the program; the customer will still request material by stock number and may receive products by several manufacturers as a single issue.

Populating this table is relatively simple and quick. Since the corresponding NSN and MSDS tables have already been built, the required data for the Master Inventory table can be rapidly pulled using the F2 "Lookup" feature of HSMS. For NSN and MSDS records that were produced or available electronically, an associated Master Inventory record can also be produce electronically.

The Master Inventory table can be used to develop and control the facility Authorized Use List (AUL), but there are alternate procedures to accomplish this. This aspect should be discussed during the initial site surveys.

c. "Straggler" Data. Discussions to this point in this section (Supply and Material Data) have been specifically directed to rapid and efficient population of the major supply related tables. Procedures have been tied to the availability and use of preliminary data and a search of existing related HSMS records in an effort to minimize the requirement to manually enter data. Realistically, at some time during the implementation process the activity and implementation team will reach that point of manual data entry. This point generally coincides with the installation of the HSMS equipment and loading of the activity HSMS database which is a database populated with all the static tables, "semi-static" tables, and any other data collected and loaded from all other sources during the "pre-load" phase.

The remaining, unloaded supply related data would be captured and entered manually during the nominal 4-week on-site data load period by the implementation contractor and activity personnel. These procedures will be discussed in Section 5.7 - HSMS Implementation Process Integration.

d. HSMS as a Safety and HAZCOM Instrument. HSMS can become an integral part of a facility safety program by using its powerful database and wealth of data, but **HSMS should NEVER be used as the only source of safety data** or as a basis for a facility's HAZCOM programs. These areas and concepts are traditionally the Safety Officer's "domain"; the safety related data contained in HSMS is neither sufficiently complete nor accurate to rely upon at the personal safety level. HSMS will: (1) provide to the Safety Officer a valuable tool to control the unauthorized use and presence of hazardous materials, (2) minimize the safety risk by helping eliminate or reduce hazardous material inventories in the workplace, (3) minimize the generation of hazardous waste, and, (4) help optimize the inventory levels of hazardous materials.

5. Processes and Algorithms. Processes and process algorithms serve to tie hazardous material use and hazardous waste production together. Algorithms describe the release paths of materials used in a process and use this information to collect information for the EPCRA Form R report.

a. Basic Data Requirements and Terminology. Four data elements form the basis for hazardous substance management and environmental reporting features: (1) algorithms, (2) authorized hazardous materials listings, (3) processes, and, (4) waste streams. Each of these data elements must be loaded into HSMS for the program to reach full functionality. Prior and subsequent sections in this chapter address relationships among many of these data elements. This Section will address methods used to obtain this information. In the context of HSMS and this manual, some terms must be established and terminology clarified.

(1) Algorithms. Algorithms are mathematical representations of the release of hazardous materials based on the processes using the materials. Data generated by algorithms are used to produce required environmental reports. Although algorithms must be generated for unique processes at an activity, there are normally a large number of common processes and algorithms that may be selected from information developed previously for other activities.

Algorithms can be developed for each unique process/location combination. As an example, a process algorithm would be developed for "Spray Painting." However, if "Spray Painting"

were to be accomplished at one location where the release mechanism was significantly different from the rest, a separate "Spray Painting" process would have to be developed for that location.

(2) AULs or Authorized HMs. Authorized hazardous materials include all items requiring an MSDS that are approved for use at a facility or the cost centers within a facility. The listing of authorized hazardous materials should include all hazardous materials currently stored or used at the activity, regardless of the quantity used or stored. Hazardous materials can be identified using as many of the following identifiers as possible: name, manufacturer, NSN, and HMIS, manufacturer, or local number.

(3) Processes. Each distinct operation constitutes a process in HSMS. Processes are generally activity-specific, but can also be location-specific if greater detail is desired. Recirculating solvent parts washer operation, for example, may constitute one process at the activity, regardless of the number of shops operating parts washers at the activity. However, if the facility had a solvent parts washer operation that required additional environmental controls the site could create a unique process to represent the operation. At least one process must be defined for each operation generating wastes or using hazardous materials at the activity.

Obtaining appropriate process definitions can be difficult. The site, along with the implementing contractor needs to achieve a balance between being too general or excessively specific. Process definitions that are too general, such as "engine maintenance," prevent algorithms from performing accurately. Alternatively, excessively specific processes, such as "degreasing type I alternator casings," cause HSMS operation to become cumbersome and time consuming. Implementation contractors have developed some standardized methods for generating suitable lists of processes.

(4) Waste Characterization. Each type of waste intended for management under HSMS is identified as a waste stream. Waste streams typically are developed for all hazardous waste and any waste requiring special management (e.g., used oil). Waste streams can be referenced using unique names or locally assigned codes.

b. Data Relationships. Processes form the central link between hazardous materials, waste streams, and algorithms. Conceptually, hazardous materials flow into a process and resulting wastes are discharged from the process. Algorithms use hazardous material flow information to calculate estimates of releases and transfers of chemicals. These relationships are illustrated in Figure 5-3.

Each hazardous material is linked to each process that uses the material; similarly, each waste stream is linked to the process generating that waste. Unlike hazardous materials and wastes, each algorithm is linked to only one process. These data relationships must be identified during the initial data-collection effort to ensure that the system is operational when it is installed.

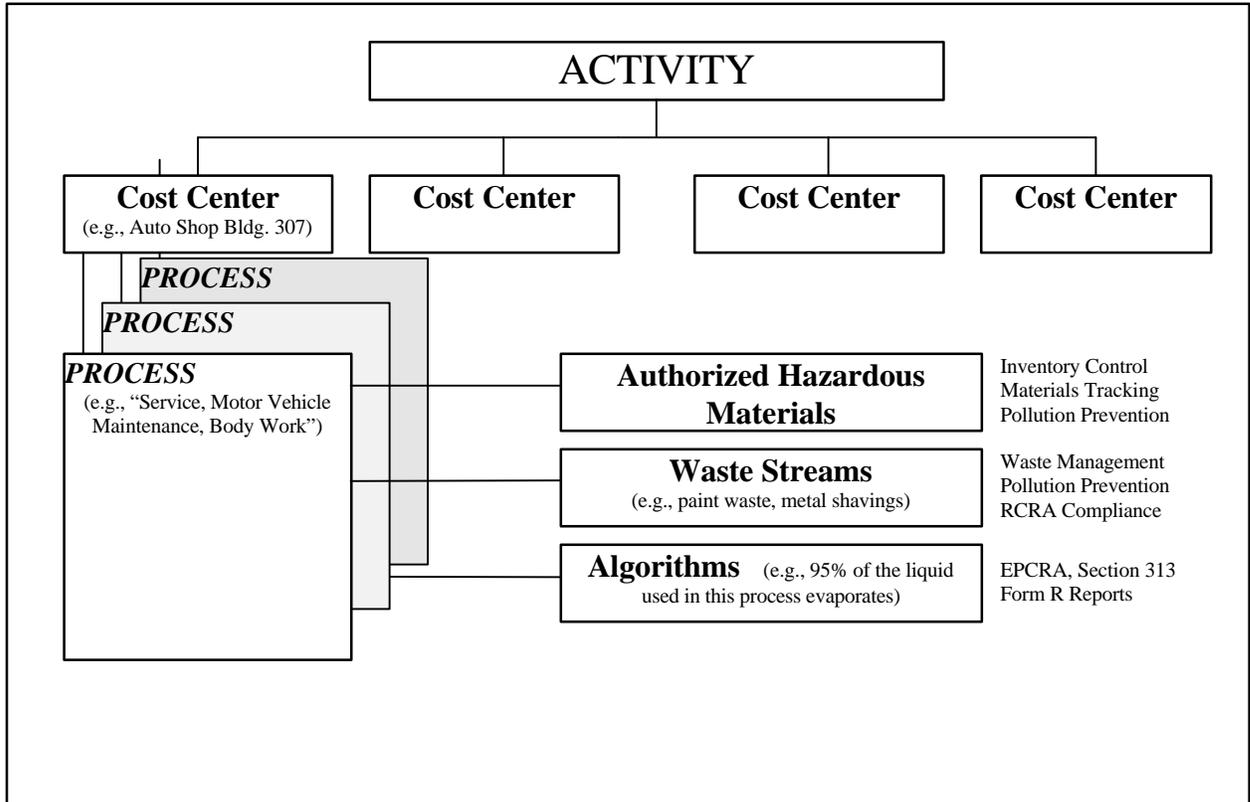


Figure 5-3 HSMS Processes and Algorithms

c. Data-Collection Roles and Responsibilities. Some of the process, materials, waste, and algorithm data are collected by the implementation contractor during the site surveys and subsequent visits; however, additional information must be collected by the activity prior to and after implementation. An overview of data-collection roles is provided in Figure 5-4. The following sub-sections detail data-collection responsibilities of both the activity and the implementation contractor. The extent of the contractor's contribution to this data collection and entry portion will be negotiated and defined in the NAVSUP-Activity MOA.

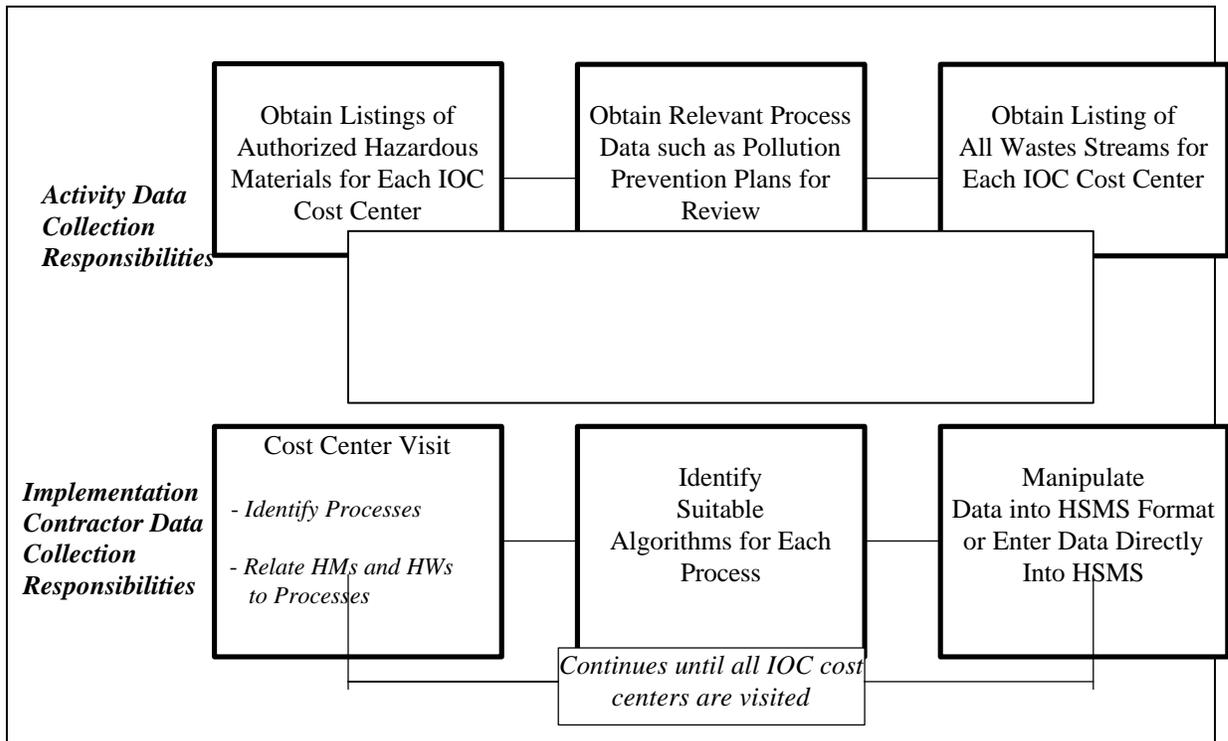


Figure 5-4 Data Collection Responsibilities

(1) Activity Responsibilities. Identification of processes and algorithms is neither required nor recommended for activity personnel during implementation; however, activity personnel will receive training in this data collection during implementation. This training will prepare activity personnel to collect process and algorithm data while working toward total implementation of HSMS.

Materials and waste tracking data required of activity personnel in preparation for implementation are:

- Listings of authorized HMs (i.e., all items requiring an MSDS). Activity personnel must obtain a listing of all materials requiring an MSDS that are authorized for use at each IOC cost center. AULs, which are often available from Supply Office, Safety Office, or Environmental Office, typically contain this information. Activity personnel must separate and record all hazardous materials by cost center. A commonly used material may appear in several cost center listings. In addition, similar items, such as paints, should be listed together whenever practicable.
- A listing of hazardous waste streams. This listing should include all hazardous wastes and wastes requiring special handling, generated at the activity. This list should be grouped by cost

center, and, if possible, subdivided by specific shops. Waste streams should be labeled using unique names or locally assigned codes, if available. All waste streams should be included, excluding quantities and frequency. For example, waste solvent generated from a part washer should be listed only once, regardless of the quantity generated or the frequency of generation. Alternatively, a waste generated very rarely at a facility (e.g., sludge from cleaning an oil-water separator) also should be listed once.

Whenever possible, information should be provided to the implementation contractor in an electronic (i.e., computer file) format. Almost any type of file is acceptable, although spreadsheet, database, or delineated text files are preferred. An example of a simple and practical format is a spreadsheet file with columns identifying hazardous materials, waste streams, cost centers, and specific shops. Additional recommendations for data-collection file formats can be obtained from the implementation contractor. All efforts should be made to utilize seemingly incompatible data files prior to resorting to manual data entry. If electronic data cannot be obtained, activities should provide printed or photocopied data, rather than resorting to manual data entry.

Activities should assign one or more persons to accompany the implementation contractor during on-site data collection. Knowledge gained by observing the implementation contractor is invaluable after Initial Operating Capability (IOC) is achieved and the activity begins working toward final and full HSMS implementation without contractor support. Personnel selected to observe the implementation contractor during data collection should be those expected to lead the activity's data-collection effort after IOC is achieved. Assigned personnel should satisfy as many of the following criteria as practicable:

- Authority to set meetings with cost center supervisors and tour cost center operations.
- Basic knowledge of work performed at IOC facilities.
- Knowledge of hazardous material use in work areas.

These criteria suggest guidance on selecting of suitable personnel; these are not, however, intended as minimum requirements, as complexity of processes and the availability of personnel vary.

(2) Contractor Roles and Responsibilities. The following is an overview of the methods used by implementation contractors for collecting, formatting, and relating data in

HSMS. This work requires a thorough understanding of the HSMS system, including data relationships described previously. Understanding this data-collection methodology allows activities to anticipate the implementation contractor's activities during site visits and to prepare for performing this data collection without contractor support after implementation.

The basic stages of this data collection, presented in the recommended order of completion, are as follows:

- Identify and describe all processes at each cost center.
- For each process, identify all hazardous materials used and all wastes generated.
- Associate an algorithm to each process.
- Assemble data into HSMS-compatible format.

This procedure assumes that the activity has already provided hazardous material and waste stream data to the implementation contractor. To obtain an inventory of processes and relate hazardous materials and waste streams to specific processes, visits to each cost center are necessary. The following is the typical procedure for performing this data collection:

- The supervisor of the cost center is provided with a brief, written overview of HSMS, a notification that the cost center has been for HSMS implementation, and a brief description of the scheduled data-collection effort. Data collection visits are scheduled well in advance, in coordination with the cost center supervisor. The supervisor is informed that the data-collection team will meet with persons familiar with each shop's operations and will tour the entire facility. Data collection visits typically last one full day at the cost center, but can require additional time for large facilities or facilities with complex processes. The availability of information and access to knowledgeable personnel also affect the time required.
- When the data-collection team arrives at the cost center, they introduce themselves to the cost center supervisor and provide a short in-brief. The team describes the methods used to collect needed information and coordinate their activities with the cost center supervisor. Throughout the data-collection effort, every effort is made to minimize impacts to ongoing operations at the cost center. In most cases, this work requires a centrally located area to meet with shop personnel (any room with chairs and a table is suitable).

- The data-collection team discusses operations of individual shops with knowledgeable personnel. If possible, suitable personnel from each shop are then brought to the meeting area, one at a time, to discuss operations with the data-collection team. The team uses this information to develop a list of processes. Each shop representative is asked to help review the shop-specific listing of hazardous materials and waste streams to identify the specific operation(s) using each hazardous material and contributing to each waste stream. This procedure typically requires approximately one hour for each shop, but can require additional time for shops with complex operations.
- The data-collection team then tours the entire cost center with the supervisor to observe each process. While observing a process, the data-collection team may interview shop personnel to clarify unresolved issues and verify the accuracy of the list of hazardous materials and hazardous wastes previously identified. When the tour is complete, the data-collection team out briefs the cost center supervisor and departs.
- After the visit to the cost center, the data-collection team identifies appropriate algorithms for each of the processes identified at the cost center. Algorithms usually are selected from algorithms previously identified for other activities. In some cases, new algorithms may be developed or existing algorithms may be modified for new or unique processes.
- This information is manipulated into HSMS-compatible formats using a combination of software programs. This data is then transferred into HSMS prior to implementation. After implementation, all new data must be entered directly into HSMS.

6. Waste. The HSMS database contain extensive tables to support and operate the system's hazardous waste management capabilities. These tables are contained in the Waste module of HSMS. Most of these data tables require some external action to collect the data and populate this portion of the database. Using the data available and collected (see Section 5.2.2) from the facility, most relevant data can be preloaded into the activity's HSMS database. From an implementation perspective, the activity and the implementing contractor will concentrate on just a few data tables.

a. Terminology. Some terminology used in the Waste Module of HSMS may be confusing to an activity and therefore merits discussion and clarification. In particular, the meaning, identification, and significance of "Waste Streams,"

"Waste Profiles," "Waste Stream Categories," and "Waste Constituents" must be addressed.

(1) Waste Streams. A waste stream is the activity's hazardous waste at the point of generation. Processes produce waste streams. Process is any "act or process" which causes a waste to exist. These could include manufacturing process, cleaning/maintenance process, painting, plating, storeroom clean outs, used up materials (batteries), unused material that can not be used for its intended use, etc.

(2) Waste Profiles. A waste profile is the activity's hazardous waste at the point of shipment to an off-site Treatment, Storage, or Disposal Facility (TSDF). Waste profiles may, and normally do, consist of a combination or consolidation of several waste streams.

(3) Waste Stream Categories. This term was developed for HSMS with the idea that activities might want to use a category code to identify similar classes of waste streams (i.e., "acids", or "solvents") to assist in the eventual consolidation of waste streams.

(4) Waste Constituents. Appended to both the Waste Stream and the Waste Profile tables are "Constituent Information" screens. This is where sample or process knowledge information can be entered to describe (classify/characterize/ profile) the waste. There will be Waste Stream and Waste Profile Constituent data input required.

b. Populating the Primary Waste Tables. During implementation, the following data tables must be populated to support the waste management function of HSMS. Much of the information will be available or can be found during preliminary data collection phases and preloaded directly in to the database by the implementing contractor personnel.

(1) Waste Reference Data Tables. Several of these tables will have been populated from previous steps, but the following two tables will require information relevant to the activity's waste disposal arrangements:

(a) Disposal Methods. This data table will contain information concerning how the activity's wastes are disposed (i.e., incineration, recycle, blending, etc.).

(b) Disposal Sites. This data table will identify the activity's TSDFs where waste is sent. It is associated with the Address table, so a record of the TSDF's formal mailing address must be built in the Address table prior to completing the Disposal Sites records.

(2) **Waste Streams Table.** The Waste Stream data table will contain information relative to waste at the point of generation. The Waste Stream ID number and Name are locally assigned.

(3) **Waste Profiles Table.** The Waste Profiles data table will contain information relative to waste just prior to disposition. The Waste Profile ID number and Name are locally assigned, but frequently reflect the numbering and nomenclature convention of the receiving TSDF.

7. HSMS Implementation Process Integration. So far, discussions in this chapter have been directed at procedures and requirements to populate the necessary HSMS *data and static* tables. Because HSMS relies upon a relational database "engine" (Oracle), there is a logical - and at times, mandatory - sequence that data must be identified, prepared, and loaded into the HSMS database. With the static and data tables now largely loaded and available, the integration of these tables to an operational HSMS entity is required. This integration is normally conducted on-site using the installed equipment and database at the facility. Conceptually, integration can be viewed as tying all the information in the static and data tables into the operational functionality of HSMS. During the on-site integration phase, for example, physical inventories of hazardous materials will be conducted to "activate" the hazardous materials inventory management functionality of HSMS. Data tables will continue to grow, as records must be built to support new materials, processes, locations, personnel, etc., discovered during the on-site integration period.

a. Inventory Management Integration. Integration and activation of the inventory management functionality of HSMS will require the introduction and initial population of several operational tables. To appreciate the complexity of the relationships of data in HSMS, an operational inventory management function in HSMS must draw upon information contained in (at least) the following data tables: Personnel, Facility Cost Centers, Locations, MSDS, CAS, Manufacturers, Site Specific Processes, and Receiving Locations, as well as numerous static tables.

(1) **Creating the HM Inventory Records.** Taking a physical inventory and entering the inventory information directly into HSMS is the preferred procedure for creating the HSMS inventory records. Normally, existing activity inventory records are unacceptable for direct, electronic entry into the HSMS database because the NSN - MSDS association either doesn't exist or is inaccurate. The physical inventory approach will help establish an accurate initial inventory baseline and assist in identifying and disposing or

redistributing expired, excess, and unnecessary materials.

As inventories are completed and verified, the physical count is entered into the HSMS via the Input Receipts table (or, alternatively, the Adjust Master Inventory table). This effort will be performed jointly by the implementing contractor and the activity inventory management personnel.

(2) Creating Specific Task IDs. HSMS uses the concept of Task IDs to create and simplify the associations of Site Specific Processes, Process Algorithms, Personnel, Locations, and Cost Centers. Task IDs must be developed to allow the inventory management function to become operational. Issues, returns, and disposition information are "keyed" to Task IDs as a mandatory entry. Records for this table will be jointly developed and entered by implementing contractor and activity personnel.

b. Process Integration. As discussed in Section 5.5, Processes and Process Algorithms are valuable components of HSMS and essential to the development of the EPCRA Form R Report and Pollution Prevention initiatives. With the integration of the Task ID into the inventory management functionality, the associated processes and algorithms can convert material issued (and used) into the fate of a product's chemical constituents. The key associations to the integration of the processes are the Task ID, proper and complete identification of materials used in the process and waste generated by the process.

c. Waste Management Integration. The waste management integration starts with the assignment and delivery of waste containers, in a status ready to receive waste. Waste, already associated with processes, cost centers, and locations, will be placed into containers. Containers will be moved, consolidated, sampled, stored and shipped within the overall management of HSMS.

Waste may also be entered into HSMS without first delivering a waste container. This would correspond to the function of receiving a waste at a collection point, TSD site or other storage area, that has not previously been tracked by HSMS. The External Waste application performs this function.

CHAPTER 6

Post IOC Implementation Activities

Hazardous Substance Management System (HSMS) Initial Operational Capability (IOC) is achieved when HSMS has been implemented to the extent that it is operational and supporting the inventories and sites initially incorporated into the system. IOC implies a self-sustaining system, capable of perpetuation and expansion. Except in very rare instances, IOC will not be a turnkey condition incorporating all of the inventories and sites within a facility. Accordingly, once IOC has been achieved and direct contractor support funded by NAVSUP completed, the facility must develop a plan to expand HSMS within the entire "fence line." This can be accomplished using internal resources or supplemental, follow-on contractor support. In any case, the procedures used to implement the initial HSMS capability at a facility will be mirrored, with minor modifications, during the post IOC, expansion periods.

1. New Customer Identification. For HSMS to be truly effective, from either a regulatory or economics point of view, every function (activity, tenant, unit, contractor, etc.) within the "fence line" boundaries that receives, stores, introduces, uses, or consumes hazardous materials, or produces, stores, manages, treats, or ships hazardous waste must be incorporated into HSMS. It is the responsibility of the base host command (or Environmental Protection Agency (EPA) ID Number holder, if not the host) to identify these new HSMS customers and integrate them into HSMS. A phased approach, with a definite Plan of Actions and Milestones, is suggested. Integration into HSMS implies integration into Consolidated Hazardous Material Reutilization and Inventory Management Program (CHRIMP) (or some variation of centralized hazardous materials management), and all other business practices established within the "fence line" for hazardous materials/hazardous waste management.

2. New Customer Data Development. The work and effort required to bring new customers into HSMS after IOC has been achieved, is significantly less than the initial HSMS implementation efforts. This is because most of the information in the data tables loaded during the initial implementation can be used (or re-used) as the customer base expands. As a new customer is scheduled to be incorporated into HSMS, one of the first steps is to acquire as much pertinent information as possible using the same procedures and from the same sources discussed in Section 5.2.

3. New Customer Data Entry. The addition of each successive activity into HSMS becomes progressively easier.

a. New Customer Reference Data. The activity being brought into HSMS must provide customer specific information such as addresses, personnel, locations, and cost centers. These must be

consistent with the formats and conventions already established in the existing facility HSMS database.

b. New Customer Supply and Materials Data. The vast majority of materials used by one activity within a common database will also be used by others, so once a record for a material has been entered into HSMS, it is there for all additional users of the system. Using the information gathered in Section 6.2 relating to the "new customer", if a corresponding record already exists in the facility HSMS database, that requirement can be eliminated for the new customer data entry requirements. The only records that will have to be built will contain information to support materials specific to the new customer that are not already residing in the HSMS database. A facility should not expect to have to build many new Manufacturers, Chemical Abstract Service Identification Number (CAS), Manufacturers Safety Data Sheet (MSDS), or National Stock Number (NSN) records for a new customer.

c. New Customer Processes Data. The new customer, in concert with the facility HSMS Implementation Coordinator (IC), will have to build site-specific processes and algorithms for processes not already in the HSMS database. Newly built Site-Specific Process and Process Algorithm records must be in the same format and consistent with the initial database entries. Any new site-specific processes or existing processes for the new customer must be built or modified to include any new materials and wastes introduced by the addition of the new customer.

d. New Customer Waste Data. At many facilities, there exists a centralized waste management procedure. If this is the case, the HSMS waste table data either already exists or only needs to be modified to include the new wastes from the new customer.

4. New Customer Integration. Integration of the new customer after all new representative data has been loaded into the database will involve several additional steps.

a. Inventory Consolidation and Integration. The retail and excess hazardous materials inventories of the new customer should be inventoried and consolidated into the basewide centrally managed inventory. This is generally a physical movement of the material to the central inventory site and receiving the additional material into the HSMS database.

b. Task ID Assignment. Task IDs must be assigned for any new processes created for the new customer.

5. Configuration Management. The purpose of this section is to provide a HSMS Configuration Management definition, explanation of the process, and describe procedure for implementing in the U. S. Navy.

a. Configuration Management Concept. The submission of HSMS System Change Requests (SCRs) by system users and the establishment and functioning of the Navy HSMS Configuration Committee and the Defense Environmental Security Corporate Information Management Project Management Office (DESCIM PMO) HSMS Configuration Board are all part of a larger process known as Configuration Management (CM). CM is the practice of disciplined change control, technical and administrative guidance, surveillance and a historical database of program progress. It defines the configuration of the software system, at discrete points in time, by systematically controlling changes and by maintaining configuration integrity and tractability throughout the software life cycle. CM provides the essential element of control at the heart of the development process. It maintains and controls the product baseline, relates the system life cycle to the development process, and maintains balance and cohesion among the process, its products, and its producers.

CM actions consist of identifying and documenting the functional and physical characteristics of each configuration item; controlling changes of each item and its documentation; recording the configuration of actual items; and, auditing each configuration item and its identification.

The importance of an efficient CM process cannot be over emphasized. It maintains and improves the evolving software product quality by preventing inconsistencies and defects from being introduced into the software and its documentation as a result of the change process. Too often, development teams downplay the CM requirement and view it as a burdensome, bean-counting exercise that inhibits rapid response to needed changes. For CM to be effective, it must be properly managed and understood by all team members. It should be used to enhance communication on the status of documents and coding, as well as changes that have been made. It provides a way to identify completed and tested modules that can be reused in subsequent development, and increases software supportability once delivered. Supportability is augmented through well-defined software elements and a history of the software's development - enabling cost-effective fixes and modifications with little impact on the user.

b. Configuration Management Process. The Naval Supply Command (NAVSUP) HSMS Program Office will periodically conduct a Navy HSMS Configuration Committee meeting to prioritize HSMS SCRs. As explained later in this document, SCRs reporting "Program Errors" are immediately forwarded to DESCIM PMO. The committee will use evaluation criteria to assure all SCRs are evaluated equally. The Navy HSMS Configuration Committee will be comprised of representatives from activities such as Chief of Naval Operations (CNO), NAVSUP, Naval Sea Systems Command (NAVSEA), the Hazardous Minimization Program Office (HMPO), facility end users, and representative(s) from each of the HSMS

implementation regions. End users will be granted full participation in selecting the person or persons to represent their region on the Navy HSMS Configuration Committee. Until all regions are implemented, NAVSUP will appoint regional representatives that have acquired significant experience or understanding in the use of HSMS.

The output of the Navy HSMS Configuration Committee will be a list of HSMS SCR priorities as they pertain to Navy requirements. The SCRs will then be forwarded to the DESCIM PMO to be used in determining the Department of Defense HSMS changes priorities. Along with the Navy HSMS SCRs, DESCIM PMO also receives HSMS SCRs from other branches of the services and Department of Defense activities including Army, Air Force, Marine Corps, and Defense Logistics Agency (DLA). DESCIM PMO enters all SCRs into a database for tracking purposes. The DESCIM PMO HSMS Configuration Board (which includes a Navy representative) reviews all SCRs and prioritizes them for action. HSMS SCRs deemed valid for action will be directed to the Naval Computer and Telecommunications Area Master Station Atlantic (NCTAMS LANT).

NCTAMS LANT is the Central Design Agent (CDA) for HSMS. DESCIM PMO tasks NCTAMS LANT to program, maintain, modify, and document HSMS software and directs NCTAMS LANT to issue HSMS program revisions. DESCIM PMO authorizes the issue of all future HSMS program releases. The NAVSUP HSMS Program Office, at its discretion, will determine whether a HSMS revision will be issued Navy-wide for implementation. Each facility is responsible to implement new revisions to HSMS application software.

c. HSMS System Change Request Process. The HSMS SCR form is the document used to request specific improvements or corrections to HSMS application software. Program modifications may become necessary as a result of programming errors, functional change whether regulatory or business practice driven, or other (i.e., external software such as Oracle, Bartender, IQ, or Windows NT). The Navy HSMS SCR Form 2.0 (latest version) should be used by all Navy facilities and Navy contractor personnel to request system changes. A sample HSMS SCR form and instructions is provided in Appendix H.

To submit a HSMS SCR, the user should follow the instructions provided on the reverse side of the SCR form. It is important that the user check one of the "Type of Input" boxes to identify the reason for the SCR, i.e., Program Error, Functional (Regulatory Driven), Functional (Business Practice Driven), or Other (Oracle, IQ, Bartender, Windows NT, etc.). Users should also check one of the "Priority of Request" boxes to indicate the level of importance that the facility assigns to the change request. The SCR submitter should provide a verbatim Error Message, if applicable. The submitter must list the Menu Bar Heading(s) where they want the functional change to be made or

where they are experiencing problems. This entry is mandatory with the Menu Heading being used in the SCR database to help screen the SCR for duplicates. The submitter should completely, accurately, and concisely describe the desired change in functional non-technical terms in "Description Part 1". If possible, describe the desired change in technical terms in the "Description Part 2". If available, the user should include estimated economic benefits in dollars or man-hours saved to support the facility's priority for the change. An important factor the Navy HSMS Configuration Committee uses to prioritize SCRs is a high return-on-investment. Regulatory driven functional changes will also be rated high. The user should also describe how a functionality change will modify procedural practices and accordingly save time and money, assure higher quality of data, or enhance CHRIMP objectives of life-cycle control and management of Hazardous Material and Hazardous Waste. SCRs that provide Navy-wide applicable functionality will be factored for a higher priority.

Any HSMS user can submit a HSMS SCR. However, HSMS SCRs should be submitted to the local HSMS Activity SCR Point of Contact (POC) to assure the requested change is consistent with the overall policy of the submitting activity. An HSMS SCR documents a specific improvement or correction that requires a change in the software. When a software defect is discovered, SCRs should be submitted to the Navy HSMS Help Desk. SCRs submitted to the Navy HSMS Help Desk by activities, document a change request to the system process and/or software.

HSMS SCRs will be submitted to the Navy HSMS Help Desk located at Management Systems Support Division (MSSD), Portsmouth Naval Shipyard, Portsmouth, NH. HSMS SCRs can be submitted by mail, fax, or e-mail. The MSSD address is shown at the bottom of the HSMS SCR form. Each SCR will be reviewed at MSSD to assure the SCR form is complete and correct. The SCR will then be evaluated to determine the accuracy of the SCR functional and technical explanation and assigned a Navy Document Number for tracking purposes. All HSMS SCR submitters will receive a copy of each SCR with the assigned Navy Document Number.

HSMS SCRs that report "Program Errors" will be forwarded to DESCIM PMO for immediate action. HSMS SCRs submitted to request "Functional (Regulatory Driven)", "Functional (Business Practice Driven)", or "Other (Oracle, IQ, Bartender, Windows NT)" will be forwarded to HSMS Configuration Committee members for pre-evaluation and discussion prior to formal HSMS Configuration Committee meetings. This committee will then prioritize the SCRs and forward them to DESCIM PMO with the Navy assigned priority. A Navy-wide user group will be established by CNO (N45) and will meet periodically to review, approve, and prioritize SCRs. Approved SCRs will be forwarded to the joint DESCIM HSMS Users Group. The joint functional work group will approve and prioritize the SCR or forward it to DoD for action in accordance

with DoD SCR procedures. A record of the action taken will be provided to the submitter via MSSD. Approved SCRs are forwarded to NCTAMS LANT for incorporation into a maintenance release or a future software version.

The HSMS SCR Navy Document Number consists of four parts: (1) the facility Unit Identification Code (UIC) or abbreviation, (2) the two digit year the SCR was submitted, (3) a sequential serial number, and (4) a duplicate SCR suffix number (explained in the next paragraph). Examples of HSMS SCR Navy Document Numbers are provided in the HSMS SCR instructions at the end of this document. All HSMS SCRs submitted by Navy and other DoD facilities and the SCR status will be available on-line through DENIX. This information is available at <http://denix.cecer.army.mil/denix/DOD/DESCIM/HSMS/HSMSCP/hmsmcp.html>

HSMS SCRs that are functional duplicates of SCRs submitted by another user will also be submitted to DESCIM PMO for action. MSSD will assign the same Navy Document Number as the original SCR with a suffix added to indicate the number of times a particular functional change has been submitted. For example, the first submitted SCR could be numbered PNS-96-123; the first duplicate SCR would then be numbered PUG-96-123-1 and the second duplicate SCR would be numbered JJMA-97-123-2, etc. Note that the submitting facility and the submission year of the SCR is included in the Navy Document Number.

HSMS SCRs deemed to be outside the scope of the SCR process will be discussed with the submitter and returned with a written explanation. An SCR outside the scope would include one where the submitter did not understand how to perform a desired task or function and the HSMS Help Desk was able to explain and resolve how the reported problem could be accomplished to the user's satisfaction. As an example, the user submitted a SCR listing a functional void. The HSMS Help Desk explains that the system can perform the function and provides instruction showing the user how to perform the desired function.

A sample of HSMS SCR Form 2.0 (latest version) and the associated instructions is located in Appendix H.

CHAPTER 7

Maintenance

1. Software Licensing.

Software purchased from private companies and/or vendors includes a licensing requirement that assures the software developing companies copyright protection. Software licensing includes a restriction to the number of users. Installing facilities are responsible to assure that their software licensing is sufficient to cover the total number of users. Higher command may provide the initial software with a prescribed number of user licenses. If the provided software has an insufficient number of user licenses, it is the installing facility's responsibility to procure additional software licenses to adequately protect the facility from litigation.

2. Hardware/Software Maintenance. (NAVSUP) has provided activities with a hardware suite to implement the Hazardous Substance Management System (HSMS). The hardware suite includes Pentium based servers and clients and Intermec barcode printers, hand held scanners, and wedge readers. The hardware is covered by various warranties. Listed below is information to help activities obtain warranty and maintenance/repair service from the various manufacturers.

Servers and Clients

SMC - The Small Multi-User Contract (SMC) provided Micronics Nucleus Pentium 100 Mhz Personal Computers (PC) used for the HSMS clients and Everex Pentium 133 Mhz Personal Computers used for HSMS servers. This contract with the EDS Corporation ended 31 September 1997. The warranty period has expired. Activities will have to make alternative plans for maintenance/repair.

SMC II - The Small Multi-User II Contract (SMC II) provided Zenith Dual Pentium 120 Mhz Personal Computers used for HSMS servers.

This equipment is covered by a 36-month on-site warranty that starts 15 days after acceptance at source. This includes those PCs bought for HSMS with a contract award date of 22 July 1996 and received at NCTAMS LANT on 27 September 1996.

To obtain warranty service, call 1-800- 70TELOS (1-800-708-3567). Press 3 for warranty service. Have equipment serial number ready. This warranty service is provided by Telos Corporation (Telos). Telos will repair or replace the defective equipment within two working days after notification.

PC LAN PLUS - PC LAN PLUS contract provided Micronics Nucleus Pentium 133 Mhz Personal Computers (PC) used for the HSMS clients.

This equipment is covered by a 36-month on-site warranty that starts 15 days after shipment. This includes those PCs bought for HSMS with a contract award date of 25 June 1996 and received at NCTAMS LANT on 29 July 1996.

To obtain warranty service, call 1-800-762-3371. Have equipment serial number ready. EDS Corporation (EDS) provides this warranty service. EDS will repair or replace the defective equipment within 72 hours (CONUS) and 108 hours (non-CONUS) working days after notification.

SMAC Data Systems - SMAC Data System (SMAC) contract provides SMAC Pentium Pro 200 Mhz and Pentium II 233 Mhz Personal Computers (PCs) used for HSMS clients.

This equipment is covered by a 36-month 24-hours a day, seven (7) days per week depot parts and service warranty including a 12-month on-site warranty service. The warranty coverage is as follows:

<u>PC Type</u>	<u>Warranty Starts</u>	<u>Warranty Expires</u>
Pentium Pro 200 Mhz	27 January 1998	27 January 2001
Pentium II 233 Mhz	3 March 1998	3 March 2001

ON-SITE Warranty Period: This service is provided the first 12 months of the warranty period. To obtain SMAC ON-SITE Warranty service, call 1-800-344-7622 between 0800 to 1830 hours Eastern Time, Monday through Friday and ask for customer service (outside these hours, your call to the same number is routed to Unisys for processing). Inform the SMAC representative that you are calling with an ON-SITE Warranty problem. The SMAC representative will forward your call to the SMAC Technical Services Help Desk. Be prepared to provide the equipment serial number, which is located on the back of the equipment, and an explanation of the problem. SMAC Technical Services Help Desk will determine the nature of the problem and ship repair/replacement parts to you. SMAC will provide you with a work order number.

SMAC will ship repair/replacement parts to you by the next business day for ON-SITE Warranty calls received before 1400 Hours Eastern Time. SMAC will ship repair/replacement parts to you within two (2) business days for calls received after 1400 Hours Eastern Time. SMAC will direct Unisys to install the repair/replacement part at your site. Unisys provides the ON-SITE Warranty service by installing repair/replacement parts and assuring correct PC operation.

SMAC will provide a prepaid FEDEX return shipping label with the repair/replacement parts. The FEDEX return shipping label number is the Return Material Authorization (RMA) number for these repair/replacement parts. Pack the defective repair/replacement parts; attach the FEDEX return-shipping label to the box, and

HSMS ACTIVITY IMPLEMENTATION MANUAL

call FEDEX to pick up the box. Activities are responsible to return the defective repair/replacement parts to SMAC.

DEPOT Warranty Period: This service is provided from month 13 through month 36 of the warranty period. To obtain SMAC DEPOT Warranty service, call 1-800-344-7622 from 0800 to 1830 hours Eastern Time, Monday through Friday and ask for customer service (outside these hours, your call to the same number is routed to Unisys for processing). Inform the SMAC representative that you are calling with a DEPOT Warranty problem. The SMAC representative will forward your call to the SMAC Technical Services Help Desk. Be prepared to provide the equipment serial number, which is located on the back of the equipment, and an explanation of the problem. SMAC Technical Services Help Desk will determine the nature of the problem and ship repair/replacement parts to you.

SMAC will ship repair/replacement parts to you by the next business day for DEPOT Warranty calls received before 1400 Hours Eastern Time. SMAC will ship repair/replacement parts to you within two (2) business days for calls received after 1400 Hours Eastern Time. Activities will be responsible to install repair/replacement parts or they may contract with a repair provider to install the parts. Unisys provides this repair/replacement part installation service for \$142.00 per site visit.

SMAC will provide a prepaid FEDEX return shipping label with the repair/replacement parts. The FEDEX return shipping label number is the RMA number for these repair/replacement parts. Pack the defective repair/replacement parts; attach the FEDEX return-shipping label to the box, and call FEDEX to pick up the box. Activities are responsible to return the defective repair/replacement parts to SMAC.

a. Intermec Bar Code Printing Hardware. Intermec Corporation (Intermec) manufactures the Model 4100 Barcode Printer, Model 1545 Hand Held Scanner and Model 9710 Wedge Reader. This equipment was purchased from the Intermec Automated Identification Technology (AIT) contract DAHC94-94-D-0003 dated March 25, 1994. The HSMS barcode equipment was purchased for NAVSUP on Purchase Number 96211-5826 on August 5, 1996. Warranty coverage starts from date of shipment. The equipment was received at NCTAMS LANT September 30, 1996. Warranty coverage is for the following time periods:

<u>Equipment</u>	<u>CLIN</u>	<u>Warranty Period (Months)</u>
Model 4100 Barcode Printer	2004DA	36
Model 1545 Hand-Held Scanner	2002AD	36
Model 9710 Wedge Reader	2003AA	60
Keyboard Configuration Interface Kit	2002AC	36

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All warranty repairs will be performed at the Maintenance Repair Centers (MRC) designated for the area in which the equipment is located. MRC locations are as follows: Within the continental United States (CONUS):

Western MRC
6001 36th Avenue West
P.O. Box 4280
Everett, WA 98203-9280
Tel: 206-348-2706
Fax: 206-356-1688

Eastern MRC
4005 S. Mendellhall Rd., Suite 10
Memphis, TN 38115-3495
Tel: 901-541-3495
Fax: 901-541-3489

Outside the continental United States (OCONUS):

Hawaii:
Advanced Data Corp.
1613 Houghtainling Street, Room 2
Honolulu, HI 96817-1968
Tel: 808-842-6589
Fax: 808-842-6689

Intermec Corporation will pay all shipping costs for equipment returned for repair during the warranty period. Procedures for returning equipment to the MRC for repair during the warranty period are as follows:

Notes: When requesting warranty service, it is extremely important to notify their Intermec representative that the equipment you are returning was purchased from the AIT contract.

1. All equipment returned for repair will be issued and tracked by a Return Material Authorization (RMA) number.
2. The activity requesting the repair will contact the assigned MRC, request the RMA number and package the equipment in accordance with standard practice to ensure delivery to Intermec. The RMA number must be clearly marked on the outside of the shipping container.
3. Upon receipt, Intermec will inspect the equipment and notify the requesting activity of any discrepancies or shortages, including any noticeable damage.
4. If the item is determined to be serviceable, Intermec will replace the item unless it is determined that the damage was due to the fault or negligence of the Government.
5. Intermec will repair and return equipment within two (2) working days.

Intermec Telephone Hot Line: Intermec Corporation operates a Telephone Hot Line to provide 24 hour, 7 days a week, technical support for AIT users worldwide. The Telephone number is 1-800-892-7007. There are four options: (1) technical assistance from

a Intermec Product Support Representative at no charge, (2) non-technical assistance and requesting a RMA number, (3) Government Sales Response Team, and (4) label and ribbon supplies.

3. Consumable Supplies.

a. Hardware Supplies.

3 1/2" Double Sided High Density (DS, HD)
Diskettes (Unformatted)
NSN: 7045-01-347-5290

3 1/2" Double Sided High Density (DS, HD)
Diskettes (Formatted)
NSN: 7045-01-365-2069

Toner Cartridge for Hewlett-Packard LaserJet
4 Plus Printer
NSN: 6850-01-376-1766

b. Bar Code Printing Supplies. The following is a list of supplies applicable to the Intermec Corporation bar code printers. These supplies are available through GSA Contract No. GS-14F-0182D which is in affect through February 28, 2000 from Intermec Corporation. This information has been updated as of January 1998. The address and telephone numbers for Intermec are as follows:

Intermec Media Products
9290 Le Saint Drive
Fairfield, Ohio 45014-5454
Tel: 1-800-227-9947
Fax: 1-800-227-1707

Model 8646 Supplies: (Model discontinued but serviced)

Polyester Labels for Intermec 8646 Printer: 3.0" X 1.0" Gloss White Polyester Thermal/Thermal Transfer (TTR) Labels. Intermec Part No. E04428-Blank (The blank must be indicated because this label has color options.)
Cost \$78.29/Roll (GSA)
Minimum order 4 rolls

Ribbon for Intermec 8646 Printer: 4.1" X 6,000" Super Premium (Smear Resistant) Thermal/Thermal Transfer (TTR) Ribbon.
Intermec Part No. 13084106
Cost \$21.18/Roll (GSA)
Minimum order \$50.00

Paper Labels for Intermec 8646 Printer: 3.0" X 1.0" Duratran II Thermal/Thermal Transfer (TTR) Coated Paper Labels.
Intermec Part No. E06172
Cost \$19.33/Roll (GSA)
Minimum order 4 rolls

Ribbon for Intermec 8646 Printer: 4.1" X 6,000" Premium Ribbon for use with Paper Labels.
Intermec Part No. 12084106
Cost \$14.76/Roll (GSA)
Minimum order 4 rolls

Model 4100 Supplies:

Ribbon for Intermec 4100 Printer: 3.25" X 12,000" Super Premium Smear Resistant Thermal/Thermal Transfer (TTR) Ribbon.
Intermec Part No. 13033312
Cost \$25.91/Roll (GSA)
Minimum order \$50.00

Paper Labels for Intermec 4100 Printer: 3.0" X 1.0" Duratran II (Coated) Paper Labels.
Intermec Part No. E06172
Cost \$19.33/Roll (GSA)
Minimum order 4 rolls

Ribbon for Intermec 4100 Printer: 4.1" X 12,000" Premium Ribbon for use with coated paper labels.
Intermec Part No. 12034112
Cost \$27.57/Roll (GSA)
Minimum order \$50.00

NOTE: Technical assistance with choosing labels and ribbons for a special application is available from the Intermec Media Center. Contact Doug Setters, Telephone No. 1-800-227-9947 Ext. 7948.

1995-1996 Puget Sound Region (Region X)

- TRF Bangor, WA
- NAVSTA Everett, WA
- NAS Whidbey Island, WA
- FISC Puget, WA
- NSWC Bayview, ID
- NAVRADSTA Jim Creek, WA
- FISC Manchester Fuels, WA
- NAVHOSP Bremerton, WA
- NAVORDCEN Port Hadlock, WA
- NSY Puget Sound, WA
- NUWC Keyport, WA

1998-1999 Midwest/West Region (Regions V, VI, VII, & VIII)

- NUWC Crane, IN
- NAWC Indianapolis, IN
- NTC Great Lakes, IL
- Missile Range White Sands, NM
- NAS JRB New Orleans, LA
- NAS Corpus Christi, TX
- NSWC Louisville, KY
- NS New Orleans, LA

1998-1999 Northeast Region (Regions I, II, & III)

- | | |
|--------------------------|----------------------------|
| NETC Newport, RI | SUBASE NLON (comp. 1997) |
| NSWC Dahlgren, VA | NSY Portsmouth, NH - |
| NAS PAX River, MD | (NAVSEA) (comp. 1996) |
| NOS Indian Head, MD | NS Anacostia (AOT) |
| NAVSTA Annapolis, MD | NSG Sugar Grove WVA |
| USNA (comp. 1998) | NNSY DET. Philadelphia, PA |
| NAS Willow Grove, PA | NAVSTA Philadelphia, PA |
| NAS Brunswick, ME | NAVHOSP Bethesda, MD |
| NAVICP Mechanicsburg, PA | NRL (AOT) |
| | WNY (JJMA/AOT Comp.) |

1997-1998 Pacific Southwest Region (Region IX)

- NAVSTA San Diego, CA
- SUBASE San Diego, CA
- FLTASWTC San Diego, CA
- NAS North Island, CA
- NAB Coronado, CA
- NAVWEPSTA Seal Beach, CA
- CBC Port Hueneme, CA
- NAVWEPSTA Concord, CA
- NCS Stockton, CA
- NMC San Diego, CA
- FCTC San Diego, CA
- NAS El Centro, CA
- NAS Lemodre, CA
- NAWS Pt Magu, CA
- NADEP San Diego, CA

1997-1998 Pearl Harbor Region (Region IX)

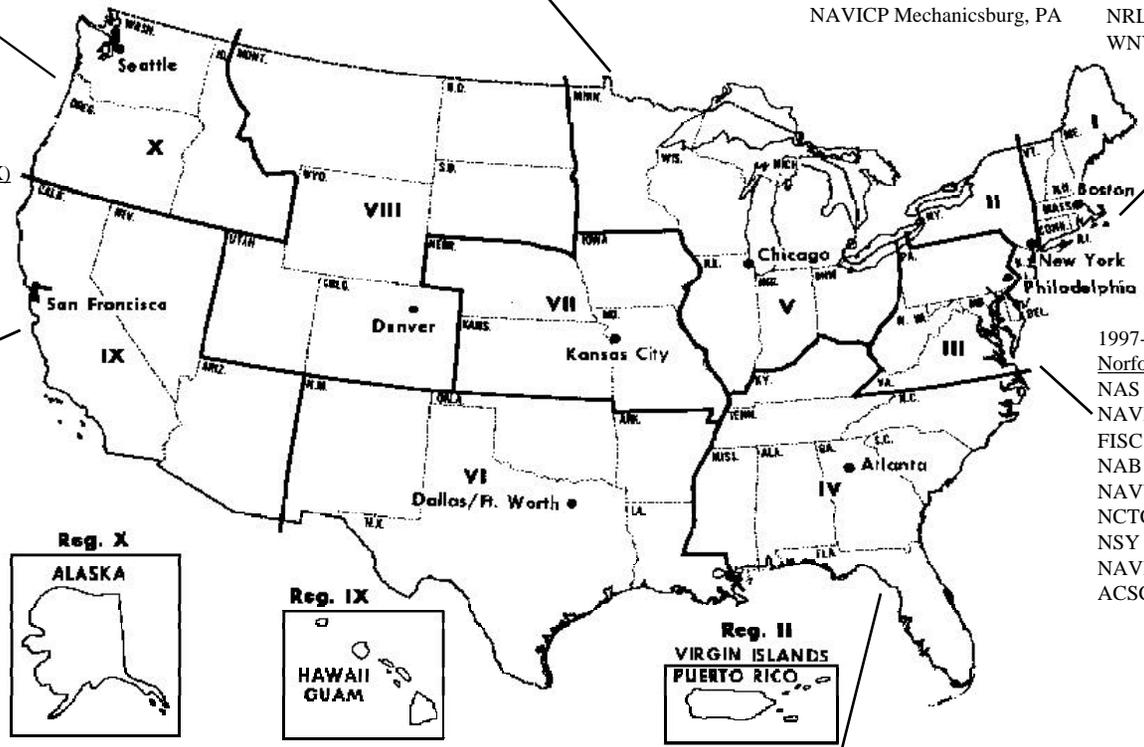
- NAVSTA Pearl Harbor, HI
- NAV MAG Luualalei, HI
- NSY Pearl Harbor, HI
- NAS Barbers Point, HI
- FISC Pearl Harbor, HI
- PWC Pearl Harbor, HI
- NCTAMS Pearl Harbor, HI
- PMRF Kauai, HI
- NAVIMFAC Pearl Harbor, HI
- NSG Kunia Radio Station, HI
- NAV MAG Westloch, HI

1997-1998 Norfolk Region (Region III)

- NAS Oceana, VA
- NAVBASE Norfolk, VA LF-50
- FISC Cheatham Annex, VA
- NAB Little Creek, VA
- NAVWEPSTA Yorktown, VA
- NCTC Dam Neck, VA
- NSY Norfolk, VA
- NAVBASE Norfolk SIMA, VA
- ACSC Wallops Island, VA

1997-1998 Southeast Region (Region IV)

- | | |
|--------------------------|-----------------------------------|
| SUBASE Kings Bay, GA | NAS Whiting Field, FL |
| NAS Key West, FL | NAS Meridian, MS |
| NAVSTA Mayport, FL | CBC Gulfport, MS |
| NAS Jacksonville, FL | NAVWEPSTA Charleston, SC |
| NAS Atlanta Marietta, GA | NAVSTA Roosevelt Roads, PR |
| NAS Memphis, TN | NAVSTA Ingleside, TX |
| NAS Pensacola, FL | NSCS Athens, GA |
| NSWC Panama City, FL | NAVSTA Pacagoula, MS (comp. 1997) |



ID	Task Name	Responsibility	M3				M2							
			W11	W10	W9	W8	W7	W6	W5	W4	W3	W2		
1	1 (Location) REGIONAL IMPLEMENTATION		[Gantt bar spanning W11 to W2]											
2														
3	1.1 Regional Evaluation		[Gantt bar spanning W11 to W8]											
4	1.1.1 Activities		[Gantt bar spanning W11 to W10]											
5	1.1.1.1 Develop List of All Activities	REC/RIC/HMPO	[Gantt bar W11]											
6	1.1.1.2 Determine "Fence Holder" Activities	REC/RIC/HMPO		[Gantt bar W10]										
7	1.1.1.3 Determine Tenant Activities	REC/RIC/HMPO		[Gantt bar W10]										
8	1.1.1.4 Determine Which Activities Have Implemented CHRIMP	HMPO/REC		[Gantt bar W10]										
9	1.1.1.5 Determine if There is a Servicing FISC	REC/RIC/HMPO	[Gantt bar W11]											
10	1.1.2 HM Management		[Gantt bar spanning W11 to W8]											
11	1.1.2.1 Determine How HM is Procured in Region	REC/RIC/HMPO	[Gantt bar W11]											
12	1.1.2.2 Determine How HM is Managed at Each Activity	REC/RIC/HMPO			[Gantt bar W9]									
13	1.1.2.3 Determine Approximate Number of Line Items at Each Activity	REC/RIC/HMPO			[Gantt bar W9]									
14	1.1.2.4 Determine How HM MSDSs are Administered	REC/RIC/HMPO			[Gantt bar W9]									
15	1.1.3 HW Management		[Gantt bar spanning W11 to W8]											
16	1.1.3.1 Determine How HW is Managed at Each Activity	REC/RIC/HMPO			[Gantt bar W9]									
17	1.1.3.2 Determine How HW is Managed Regionally	REC/RIC/HMPO	[Gantt bar W11]											
18	1.1.4 Training		[Gantt bar spanning W11 to W10]											
19	1.1.4.1 Investigate Central Training Facility for HSMS Training	REC/RIC/HMPO	[Gantt bar W11]											
20	1.1.4.2 Estimate Training Load for Region	REC/RIC/HMPO	[Gantt bar W11]											
21														
22														
23	1.2 Activity Selection				[Gantt bar spanning W9 to W7]									
24	1.2.1 Activities With CHRIMP Implemented							[Gantt bar W7]						
25	1.2.1.1 Select Candidates for HSMS Implementation	REC/RIC/HMPO						[Gantt bar W7]						
26	1.2.2 Activities Without CHRIMP Implemented				[Gantt bar W9]									
27	1.2.2.1 Select Activities for CHRIMP Implementation	REC/RIC/HMPO			[Gantt bar W9]									
28	1.2.2.2 Determine Time frame for HSMS Implementation	REC/RIC/HMPO			[Gantt bar W9]									
29														
30	1.3 Implementation Initiation								[Gantt bar W6]					
31	1.3.1 Send Letter to Selected Activities	NAVSUP							[Gantt bar W6]					

APPENDIX B - HSMS REGIONAL IMPLEMENTATION POA&M

NAVSUP P-720 HSMS ACTIVITY IMPLEMENTATION MANUAL

ID	Task Name	Responsibility	M3				M2					
			W11	W10	W9	W8	W7	W6	W5	W4	W3	W2
32	1.3.2 Request Audience With CO to Brief HSMS Implementation	NAVSUP							■			
33												
34	1.3.3 MILESTONE 1 DECISION POINT - START ACTIVITY IMPLEMENTATIONS	NAVSUP							◆			
35												
36	1.4 Activity HSMS Implementation											
37	1.4.1 Activity 1 (28 Weeks)	HMPO/RIC/JJMA/Activity										
38	1.4.2 Activity 2 (38 Weeks)	HMPO/RIC/JJMA/Activity										
39												
40												
41	1.5 Post HSMS IOC Support											
42	1.5.1 Submit HSMS System Change Requests to MSSD	Activity										■
43	1.5.2 Maintain HSMS Regional Newsletter	RIC										■
44	1.5.3 Develop a Continuing HSMS Regional Support Group	RIC/REC/HMPO/Activity IC										■
45	1.5.4 Manage Regional HSMS Version Control	HMPO										■
46	1.5.5 Coordinate and Track Assist Visits	HMPO										■
47	1.5.6 Provide Customer Service Visits of Opportunity	HMPO, RIC, JJMA										■
48	1.5.7 Develop POA&M for Remaining Activities in Region	REC/HMPO										■
49	1.5.8 Establish Monitoring System for Full Activity/Regional Implementation	HMPO										■

APPENDIX C - ACTIVITY IMPLEMENTATION POA&M (CHRIMPED)

NAVSUP P-720 HSMS ACTIVITY IMPLEMENTATION MANUAL

ID	Task Name	Responsibility	Duration	Month 7							Month 6							Month 5							Month 4							Month 3							Month 2						
				V29	W28	W27	W26	W25	W24	W23	W22	W21	W20	W19	W18	W17	W16	W15	W14	W13	W12	W11	W10	W9	W8	W7	W6	W5	W4	W3	W2														
1	1 (Activity Name) HSMS IMPLEMENTATION		136d	[Gantt bar spanning from V29 to V2]																																									
2																																													
3	1.1 PHASE I - INTRODUCTION		15d	[Gantt bar from V29 to W26]																																									
4	1.1.1 Coordinate Activity Briefings	NAVSUP/REC/RIC/HMPO	1w	[Task bar from W28 to W29]																																									
5	1.1.2 Brief Preparation	NAVSUP/REC/RIC/HMPO	0.5w	[Task bar from W28 to W28]																																									
6	1.1.3 Functional Briefs and Initial Site Review		5d	[Task bar from W27 to W23]																																									
7	1.1.3.1 HSMS Overview for Command and Staff	NAVSUP/REC/RIC/HMPO	1d	[Task bar from W27 to W27]																																									
8	1.1.3.2 Conduct Site Review	JJMA/HMPO/RIC	4d	[Task bar from W26 to W22]																																									
9	1.1.4 Conduct CO Brief	NAVSUP/REC/RIC/HMPO	1d	[Task bar from W25 to W25]																																									
10	1.1.5 MILESTONE 2 DECISION POINT	NAVSUP	0d	[Milestone diamond at W24]																																									
11																																													
12	1.2 PHASE II - PLANNING		25d	[Gantt bar from W24 to W2]																																									
13	1.2.1 Designate HSMS Implementation Coordinator (IC)	Activity	1d	[Task bar from W24 to W24]																																									
14	1.2.2 Designate Functional POCs		1d	[Task bar from W24 to W24]																																									
15	1.2.2.1 Designate ADP POC	Activity	1d	[Task bar from W24 to W24]																																									
16	1.2.2.1.1 Designate System Administrator	Activity Functional Heads	1d	[Task bar from W24 to W24]																																									
17	1.2.2.2 Designate Environmental POC	Activity Functional Heads	1d	[Task bar from W24 to W24]																																									
18	1.2.2.2.1 Designate Database Administrator (DBA)	Activity Functional Heads	1d	[Task bar from W24 to W24]																																									
19	1.2.2.3 Designate Safety/OSH POC	Activity Functional Heads	1d	[Task bar from W24 to W24]																																									
20	1.2.2.4 Designate Supply POC	Activity Functional Heads	1d	[Task bar from W24 to W24]																																									
21	1.2.3 Activity Complete Questionnaire	Activity Functional Heads	4d	[Task bar from W23 to W19]																																									
22	1.2.4 Submit Questionnaire to RIC	Activity Functional Heads	1d	[Task bar from W23 to W23]																																									
23	1.2.5 Coordinate Functional/Survey Visit	Activity Functional Heads	2w	[Task bar from W22 to W20]																																									
24	1.2.6 Start Regional Newsletter Distribution to Activity	RIC	0.5w	[Task bar from W22 to W22]																																									
25	1.2.7 Functional/Survey Visit Preparation	JJMA	2w	[Task bar from W21 to W19]																																									
26	1.2.8 Conduct Functional/Survey Visit		4.13d	[Task bar from W18 to W14]																																									
27	1.2.8.1 Brief Designated Functional POCs	JJMA/Activity Functional POCs/RI	1h	[Task bar from W18 to W18]																																									
28	1.2.8.2 Discuss Functional Head Responsibilities for HSMS Installation and Operation	JJMA/Activity Functional POCs	4d	[Task bar from W17 to W13]																																									
29	1.2.8.3 Identify Pre-Load Data Sources-Obtain Data	JJMA	4d	[Task bar from W16 to W12]																																									
30	1.2.8.4 Determine Hardware Requirements	Activity ADP POC/JJMA	4d	[Task bar from W15 to W11]																																									

APPENDIX C - ACTIVITY INPLEMENTATION POA&M (CHRIMPED)

NAVSUP P-720 HSMS ACTIVITY IMPLEMENTATION MANUAL

ID	Task Name	Responsibility	Duration	Month 7				Month 6				Month 5				Month 4				Month 3				Month 2					
				W29	W28	W27	W26	W25	W24	W23	W22	W21	W20	W19	W18	W17	W16	W15	W14	W13	W12	W11	W10	W9	W8	W7	W6	W5	W4
61	1.3.6.4 Report LAN Installation Completion to RIC	Activity ADP POC	1d																										
62	1.3.6.5 Pickup, Prepare, Test, and Ship Hardware	Activity ADP POC	1w																										
63	1.3.7 Conduct 1-2 Week Assist Visits	HMPO/RIC/JJMA	2w																										
64	1.3.8 Deliver Activity Specific POA&M to Activity	RIC/JJMA	0.2w																										
65	1.3.9 Conduct NT/IQ/ORACLE Training	NCTAMS LANT/ Activity Pers.	1w																										
66	1.3.10 Hardware Installation Planning	JJMA	1w																										
67	1.3.11 Milestone Assessment - Feedback to Activity	RIC/HMPO	0d																										
68	1.3.12 MILESTONE 4 DECISION POINT - INSTALLATION HOLD	HMPO	0d																										
69			1d																										
70	1.4 PHASE IV - EQUIPMENT AND SOFTWARE INSTALLATION		16d																										
71	1.4.1 Hardware/Software Installation		6d																										
72	1.4.1.1 Install Server & Workstations	JJMA	1d																										
73	1.4.1.2 Install Barcode Equipment	JJMA	1d																										
74	1.4.1.3 Install NT and Relational Database on Server	JJMA	1d																										
75	1.4.1.4 Install SQL-NET on Clients	JJMA	1d																										
76	1.4.1.5 Establish Network Client/Server Connectivity	Activity SA	1d																										
77	1.4.1.6 Install HSMS and Static Tables for Training	JJMA	1d																										
78	1.4.2 Classroom HSMS Training	NCTAMSLANT/Activity Personnel	1w																										
79	1.4.3 OJT Training Preparation	JJMA	1w																										
80	1.4.4 OJT HSMS/HMIS Training	JJMA/Activity Personnel	1w																										
81	1.4.5 HSMS OJT	Activity Personnel	1w																										
82	1.4.6 Milestone Assessment - Feedback to Activity	RIC/HMPO	0d																										
83	1.4.7 MILESTONE 5 DECISION POINT - DATA LOAD HOLD	HMPO	0d																										
84																													
85	1.5 PHASE V - DATA LOADING		20d																										
86	1.5.1 Data Loading Visit		20d																										
87	1.5.1.1 Re-Install HSMS	JJMA	1d																										
88	1.5.1.2 Load Site Specific Data	JJMA/Activity Personnel	1d																										
89	1.5.1.3 Pre-existing HM Inv. System Data to HSMS Data Conversion	JJMA/Activity Personnel	1d																										
90	1.5.1.4 Load New Material	JJMA/Activity Personnel	19d																										

APPENDIX D - ACTIVITY IMPLEMENTATION POA&M (NON-CHRIMPed) NAVSUP P-720 HSMS ACTIVITY IMPLEMENTATION MANUAL

ID	Task Name	Responsibility	Duration	Month 9				Month 8				Month 7				Month 6							
				W26	W28	W27	W28	W25	W24	W23	W22	W21	W20	W19	W18	W17	W16	W15	W14	W13	W12		
1	1 (Activity Name) HSMS IMPLEMENTATION		190d	[Gantt bar spanning from W26 of Month 9 to W12 of Month 6]																			
2																							
3	1.1 PHASE I - INTRODUCTION		15d	[Gantt bar from W26 to W10 of Month 9]																			
4	1.1.1 Coordinate Activity Briefings	NAVSUP/REC/RIC/HMPO	1w	[Task bar from W26 to W27 of Month 9]																			
5	1.1.2 Brief Preparation	NAVSUP/REC/RIC/HMPO	0.5w	[Task bar from W27 to W28 of Month 9]																			
6	1.1.3 Functional Briefs and Initial Site Review		5d	[Task bar from W28 to W1 of Month 9]																			
7	1.1.3.1 HSMS Overview for Command and Staff	NAVSUP/REC/RIC/HMPO	1d	[Task bar from W1 to W2 of Month 9]																			
8	1.1.3.2 Conduct Site Review	JJMA/HMPO/RIC	4d	[Task bar from W2 to W5 of Month 9]																			
9	1.1.4 Conduct CO Brief	NAVSUP/REC/RIC/HMPO	1d	[Task bar from W5 to W6 of Month 9]																			
10	1.1.5 MILESTONE 2 DECISION POINT	NAVSUP	0d	[Milestone diamond at W6 of Month 9]																			
11																							
12	1.2 PHASE II - PLANNING		25d	[Gantt bar from W6 to W1 of Month 8]																			
13	1.2.1 Designate HSMS Implementation Coordinator (IC)	Activity	1d	[Task bar from W6 to W7 of Month 9]																			
14	1.2.2 Designate Functional POCs		1d	[Task bar from W7 to W8 of Month 9]																			
15	1.2.2.1 Designate ADP POC	Activity	1d	[Task bar from W8 to W9 of Month 9]																			
16	1.2.2.1.1 Designate System Administrator	Activity Functional Heads	1d	[Task bar from W9 to W10 of Month 9]																			
17	1.2.2.2 Designate Environmental POC	Activity Functional Heads	1d	[Task bar from W10 to W11 of Month 9]																			
18	1.2.2.2.1 Designate Database Administrator (DBA)	Activity Functional Heads	1d	[Task bar from W11 to W12 of Month 9]																			
19	1.2.2.3 Designate Safety/OSH POC	Activity Functional Heads	1d	[Task bar from W12 to W13 of Month 9]																			
20	1.2.2.4 Designate Supply POC	Activity Functional Heads	1d	[Task bar from W13 to W14 of Month 9]																			
21	1.2.3 Activity Complete Questionnaire	Activity Functional Heads	4d	[Task bar from W14 to W18 of Month 9]																			
22	1.2.4 Submit Questionnaire to RIC	Activity Functional Heads	1d	[Task bar from W18 to W19 of Month 9]																			
23	1.2.5 Coordinate Functional/Survey Visit	Activity Functional Heads	2w	[Task bar from W19 to W1 of Month 8]																			
24	1.2.6 Start Regional Newsletter Distribution to Activity	RIC	0.5w	[Task bar from W19 to W20 of Month 9]																			
25	1.2.7 Functional/Survey Visit Preparation	JJMA	2w	[Task bar from W20 to W22 of Month 9]																			
26	1.2.8 Conduct Functional/Survey Visit		4.13d	[Task bar from W22 to W1 of Month 8]																			
27	1.2.8.1 Brief Designated Functional POCs	JJMA/Activity Functional POCs/R	1h	[Task bar from W1 to W2 of Month 8]																			
28	1.2.8.2 Discuss Functional Head Responsibilities for CHRIMP/HSMS Installation and Operatio	JJMA/Activity Functional POCs	4d	[Task bar from W2 to W5 of Month 8]																			
29	1.2.8.3 Discuss Phase III CHRIMP Tasks	JJMA/Activity Functional POCs	4d	[Task bar from W5 to W8 of Month 8]																			
30	1.2.8.4 Identify Potential Sites for HAZMINCEN	JJMA/Activity Functional POCs	4d	[Task bar from W8 to W11 of Month 8]																			
31	1.2.8.5 Identify Pre-Load Data Sources-Obtain Data	JJMA	4d	[Task bar from W11 to W14 of Month 8]																			

APPENDIX D - ACTIVITY IMPLEMENTATION POA&M (NON-CHRIMPed) NAVSUP P-720 HSMS ACTIVITY IMPLEMENTATION MANUAL

ID	Task Name	Responsibility	Duration	Month 9				Month 8				Month 7				Month 6						
				W38	W39	W40	W41	W42	W43	W44	W45	W46	W47	W48	W49	W50	W51	W52				
32	1.2.8.6 Determine Hardware Requirements	Activity ADP POC/JJMA	4d																			
33	1.2.8.7 Identify Sites for HSMS Terminals	Activity ADP POC/JJMA	4d																			
34	1.2.8.8 Prepare & Submit Comprehensive Site Survey Report	JJMA	1d																			
35	1.2.9 Define MOA		10d																			
36	1.2.9.1 Identify IOC	RIC/Activity IC/JJMA	2d																			
37	1.2.9.2 Prepare Draft MOA	RIC	3d																			
38	1.2.9.3 Negotiate MOA with Activity	RIC/Activity IC	4d																			
39	1.2.9.4 Obtain Activity Approval/Signature on MOA	RIC/HMPO	1d																			
40	1.2.10 Milestone Assessment - Feedback to Activity	RIC/HMPO	0d																			
41	1.2.11 MILESTONE 3 DECISION POINT - IMPLEMENTATION HOLD	HMPO	0d																			
42																						
43	1.3 PHASE III - CHRIMP PREPARATION		46d																			
44	1.3.1 Develop AUL	Activity	6w																			
45	1.3.2 Develop CHRIMP Instruction	Activity	45d																			
46	1.3.2.1 Determine Procurement Responsibility	Activity	3w																			
47	1.3.2.2 Establish CHRIMP Organization	Activity	3w																			
48	1.3.2.3 Develop Business Rules	Activity	3w																			
49	1.3.2.4 Obtain Command Approval/Signature	Activity	3w																			
50	1.3.3 Provide CHRIMP Assistance/Consultation	RIC/HMPO/JJMA	9w																			
51	1.3.4 Identify/Prepare Bldg./Space for HAZMINCEN	Activity/RIC/JJMA	9w																			
52	1.3.5 Identify and Task HAZMINCEN Personnel	Activity	9w																			
53	1.3.6 Milestone Assessment - Feedback to Activity	RIC/HMPO	1d																			
54	1.3.7 MILESTONE 4 DECISION POINT - CHRIMP HOLD	HMPO	0d																			
55																						
56	1.4 PHASE IV - EQUIPMENT AND DATA PREPARATION		70d																			
57	1.4.1 Implementation Planning	JJMA	2w																			
58	1.4.2 Hardware Procurement		5d																			
59	1.4.2.1 Order HSMS Computer Hardware	NAVSUP/RIC/JJMA	1w																			
60	1.4.2.2 Order HSMS Computer Software	NAVSUP/RIC/JJMA	1w																			
61	1.4.3 Training Coordination		4d																			
62	1.4.3.1 Determine required Number of Training Quotas	RIC/Activity IC	0.4w																			

APPENDIX D - ACTIVITY IMPLEMENTATION POA&M (NON-CHRImped) NAVSUP P-720 HSMS ACTIVITY IMPLEMENTATION MANUAL

ID	Task Name	Responsibility	Duration	Month 9				Month 8				Month 7				Month 6							
				W39	W38	W37	W36	W35	W34	W33	W32	W31	W30	W29	W28	W27	W26	W25	W24	W23	W22	W21	
125																							
126	1.8 PHASE VIII - HSMS IOC FOLLOW-UP		30d																				
127	1.8.1 Implementation Continuation		15d																				
128	1.8.1.1 Document Lessons Learned	JJMA/Activity IC	1w																				
129	1.8.1.2 Recommend HSMS System Improvements	JJMA/Activity IC	1w																				
130	1.8.1.3 Develop POA&M for Full Operating Capability (FOC)	Activity IC/HMPO/IC	2w																				
131	1.8.2 Follow-Up Visit	Activity IC/HMPO/IC/JJMA	1w																				
132	1.8.3 Submit Final Implementation Report	JJMA	1w																				

APPENDIX D - ACTIVITY IMPLEMENTATION POA&M (NON-CHRImpEd) NAVSUP P-720 HSMS ACTIVITY IMPLEMENTATION MANUAL

ID	Task Name	Responsibility	Month 5				Month 4				Month 3				Month 2				Month 1	
			W20	W19	W18	W17	W16	W15	W14	W13	W12	W11	W10	W9	W8	W7	W6	W5	W4	W3
1	1 (Activity Name) HSMS IMPLEMENTATION																			
2																				
3	1.1 PHASE I - INTRODUCTION																			
4	1.1.1 Coordinate Activity Briefings	NAVSUP/REC/RIC/HMPO																		
5	1.1.2 Brief Preparation	NAVSUP/REC/RIC/HMPO																		
6	1.1.3 Functional Briefs and Initial Site Review																			
7	1.1.3.1 HSMS Overview for Command and Staff	NAVSUP/REC/RIC/HMPO																		
8	1.1.3.2 Conduct Site Review	JJMA/HMPO/RIC																		
9	1.1.4 Conduct CO Brief	NAVSUP/REC/RIC/HMPO																		
10	1.1.5 MILESTONE 2 DECISION POINT	NAVSUP																		
11																				
12	1.2 PHASE II - PLANNING																			
13	1.2.1 Designate HSMS Implementation Coordinator (IC)	Activity																		
14	1.2.2 Designate Functional POCs																			
15	1.2.2.1 Designate ADP POC	Activity																		
16	1.2.2.1.1 Designate System Administrator	Activity Functional Heads																		
17	1.2.2.2 Designate Environmental POC	Activity Functional Heads																		
18	1.2.2.2.1 Designate Database Administrator (DBA)	Activity Functional Heads																		
19	1.2.2.3 Designate Safety/OSH POC	Activity Functional Heads																		
20	1.2.2.4 Designate Supply POC	Activity Functional Heads																		
21	1.2.3 Activity Complete Questionnaire	Activity Functional Heads																		
22	1.2.4 Submit Questionnaire to RIC	Activity Functional Heads																		
23	1.2.5 Coordinate Functional/Survey Visit	Activity Functional Heads																		
24	1.2.6 Start Regional Newsletter Distribution to Activity	RIC																		
25	1.2.7 Functional/Survey Visit Preparation	JJMA																		
26	1.2.8 Conduct Functional/Survey Visit																			
27	1.2.8.1 Brief Designated Functional POCs	JJMA/Activity Functional POCs/R																		
28	1.2.8.2 Discuss Functional Head Responsibilities for CHRIMP/HSMS Installation and Operatio	JJMA/Activity Functional POCs																		
29	1.2.8.3 Discuss Phase III CHRIMP Tasks	JJMA/Activity Functional POCs																		
30	1.2.8.4 Identify Potential Sites for HAZMINCEN	JJMA/Activity Functional POCs																		
31	1.2.8.5 Identify Pre-Load Data Sources-Obtain Data	JJMA																		

APPENDIX D - ACTIVITY IMPLEMENTATION POA&M (NON-CHRIMPed) NAVSUP P-720 HSMS ACTIVITY IMPLEMENTATION MANUAL

ID	Task Name	Responsibility	Month 5				Month 4				Month 3				Month 2				Month 1			
			W20	W19	W18	W17	W16	W15	W14	W13	W12	W11	W10	W9	W8	W7	W6	W5	W4	W3	W2	
32	1.2.8.6 Determine Hardware Requirements	Activity ADP POC/JJMA																				
33	1.2.8.7 Identify Sites for HSMS Terminals	Activity ADP POC/JJMA																				
34	1.2.8.8 Prepare & Submit Comprehensive Site Survey Report	JJMA																				
35	1.2.9 Define MOA																					
36	1.2.9.1 Identify IOC	RIC/Activity IC/JJMA																				
37	1.2.9.2 Prepare Draft MOA	RIC																				
38	1.2.9.3 Negotiate MOA with Activity	RIC/Activity IC																				
39	1.2.9.4 Obtain Activity Approval/Signature on MOA	RIC/HMPO																				
40	1.2.10 Milestone Assessment - Feedback to Activity	RIC/HMPO																				
41	1.2.11 MILESTONE 3 DECISION POINT - IMPLEMENTATION HOLD	HMPO																				
42																						
43	1.3 PHASE III - CHRIMP PREPARATION																					
44	1.3.1 Develop AUL	Activity																				
45	1.3.2 Develop CHRIMP Instruction	Activity																				
46	1.3.2.1 Determine Procurement Responsibility	Activity																				
47	1.3.2.2 Establish CHRIMP Organization	Activity																				
48	1.3.2.3 Develop Business Rules	Activity																				
49	1.3.2.4 Obtain Command Approval/Signature	Activity																				
50	1.3.3 Provide CHRIMP Assistance/Consultation	RIC/HMPO/JJMA																				
51	1.3.4 Identify/Prepare Bldg./Space for HAZMINCEN	Activity/RIC/JJMA																				
52	1.3.5 Identify and Task HAZMINCEN Personnel	Activity																				
53	1.3.6 Milestone Assessment - Feedback to Activity	RIC/HMPO																				
54	1.3.7 MILESTONE 4 DECISION POINT - CHRIMP HOLD	HMPO																				
55																						
56	1.4 PHASE IV - EQUIPMENT AND DATA PREPARATION																					
57	1.4.1 Implementation Planning	JJMA																				
58	1.4.2 Hardware Procurement																					
59	1.4.2.1 Order HSMS Computer Hardware	NAVSUP/RIC/JJMA																				
60	1.4.2.2 Order HSMS Computer Software	NAVSUP/RIC/JJMA																				
61	1.4.3 Training Coordination																					
62	1.4.3.1 Determine required Number of Training Quotas	RIC/Activity IC																				

APPENDIX D - ACTIVITY IMPLEMENTATION POA&M (NON-CHRIMPed) NAVSUP P-720 HSMS ACTIVITY IMPLEMENTATION MANUAL

ID	Task Name	Responsibility	Month 5				Month 4				Month 3				Month 2				Month 1	
			W20	W19	W18	W17	W16	W15	W14	W13	W12	W11	W10	W9	W8	W7	W6	W5	W4	W3
63	1.4.3.2 Coordinate HSMS Classroom Training	RIC/HMPO East																		
64	1.4.3.3 Coordinate NT/Q/Oracle Training	RIC/HMPO East																		
65	1.4.3.4 Coordinate HSMS OJT Training	RIC/JJMA																		
66	1.4.4 Develop Activity Specific POA&M	JJMA																		
67	1.4.5 Site Specific Preparation and Data Development																			
68	1.4.5.1 Match HMIS MSDS to Each HM-Provide Data to JJMA	Activity Safety/OSH POC																		
69	1.4.5.2 Establish Single Point for All Ordering/Receiving/Issuing of HM	Activity Supply POC																		
70	1.4.5.3 Develop Pre-Load Data	JJMA																		
71	1.4.6 ADP																			
72	1.4.6.1 Establish Space, Power, Comms, and Equipment Req.	Activity ADP POC																		
73	1.4.6.2 Prepare HAZMINCEN Site	Activity ADP POC																		
74	1.4.6.3 Prepare Other Sites	Activity ADP POC																		
75	1.4.6.4 Ensure Installation of Communication Network (LAN Connections)	Activity ADP POC																		
76	1.4.6.5 Report HAZMINCEN Ready for Hardware	Activity ADP POC																		
77	1.4.6.6 Report LAN Installation Completion to RIC	Activity ADP POC																		
78	1.4.6.7 Pickup, Prepare, Test, and Ship Hardware	JJMA																		
79	1.4.7 Conduct 1-2 Week Assist Visits	RIC/HMPO/JJMA																		
80	1.4.8 Deliver Activity Specific POA&M to Activity	RIC/JJMA																		
81	1.4.9 Conduct NT/Q/ORACLE Training	NCTAMS LANT/ Activity Pers.																		
82	1.4.10 Hardware Installation Planning	JJMA																		
83	1.4.11 Milestone Assessment - Feedback to Activity	RIC/HMPO																		
84	1.4.12 MILESTONE 5 DECISION POINT - INSTALLATION HOLD	HMPO																		
85																				
86	1.5 PHASE V - EQUIPMENT AND SOFTWARE INSTALLATION																			
87	1.5.1 Hardware/Software Installation (HAZMINCEN)																			
88	1.5.1.1 Install Server & Workstations	JJMA																		
89	1.5.1.2 Install Barcode Equipment	JJMA																		
90	1.5.1.3 Install NT and Relational Database on Server	JJMA																		
91	1.5.1.4 Install SQL-NET on Clients	JJMA																		
92	1.5.1.5 Establish Network Client/Server Connectivity	Activity SA																		
93	1.5.1.6 Install HSMS and Static Tables for Training	JJMA																		

APPENDIX D - ACTIVITY IMPLEMENTATION POA&M (NON-CHRImped) NAVSUP P-720 HSMS ACTIVITY IMPLEMENTATION MANUAL

ID	Task Name	Responsibility	Month 5			Month 4				Month 3				Month 2				Month 1			
			W20	W19	W18	W17	W16	W15	W14	W13	W12	W11	W10	W9	W8	W7	W6	W5	W4	W3	W2
94	1.5.2 Classroom HSMS Training	NCTAMSLANT/Activity Personnel																			
95	1.5.3 OJT Training Preparation	JJMA																			
96	1.5.4 OJT HSMS/HMIS Training	JJMA/Activity Personnel																			
97	1.5.5 HSMS OJT	Activity Personnel																			
98	1.5.6 Milestone Assessment - Feedback to Activity	RIC/HMPO																			
99	1.5.7 MILESTONE 6 DECISION POINT - MATERIAL DATA LOAD HOLD	HMPO																			
100																					
101	1.6 PHASE VI - MATERIAL DATA LOADING		[Redacted]																		
102	1.6.1 Data Loading Visit		[Redacted]																		
103	1.6.1.1 Re-Install HSMS	JJMA																			
104	1.6.1.2 Load Site Specific Data	JJMA/Activity Personnel																			
105	1.6.1.3 Pre-existing HM Inv. System Data to HSMS Data Conversion	JJMA/Activity Personnel																			
106	1.6.1.4 Load New Material	JJMA/Activity Personnel	[Redacted]																		
107	1.6.1.4.1 Link Material To MSDS	JJMA/Activity Personnel	[Redacted]																		
108	1.6.1.5 Issue (reissue) All HM	JJMA/Activity Personnel	[Redacted]																		
109	1.6.1.6 COMMENCE CHRIMP OPERATION	Activity HAZMINCEN																			
110																					
111	1.7 PHASE VII - CHRIMP REFINEMENT/ADDITIONAL DATA LOADING		[Redacted]																		
112	1.7.1 Refine HAZMINCEN Business Practices	Activity HAZMINCEN	[Redacted]																		
113	1.7.2 Bring in New Customers	Activity HAZMINCEN	[Redacted]																		
114	1.7.3 Hardware/Software Installation (Non-HAZMINCEN, if necessary)	JJMA																			
115	1.7.3.1 Install Server & Workstations	JJMA																			
116	1.7.3.2 Install Barcode Equipment	JJMA																			
117	1.7.3.3 Install NT and Relational Database on Server	JJMA																			
118	1.7.3.4 Install SQL-NET on Clients	JJMA																			
119	1.7.3.5 Establish Network Client/Server Connectivity	Activity SA																			
120	1.7.4 Identify Processes and Waste Streams for HM-Provide to JJMA	Activity Env. POC																			
121	1.7.5 Link Material to Process	JJMA/Activity Personnel																			
122	1.7.6 Link Material to Waste Stream	JJMA/Activity Personnel																			
123																					
124	1.7.7 HSMS INITIAL OPERATING CAPABILITY (IOC)																				

APPENDIX D - ACTIVITY IMPLEMENTATION POA&M (NON-CHRImped) NAVSUP P-720 HSMS ACTIVITY IMPLEMENTATION MANUAL

ID	Task Name	Responsibility	Month 5			Month 4				Month 3				Month 2			Month 1				
			W20	W19	W18	W17	W16	W15	W14	W13	W12	W11	W10	W9	W8	W7	W6	W5	W4	W3	W2
125																					
126	1.8 PHASE VIII - HSMS IOC FOLLOW-UP																				
127	1.8.1 Implementation Continuation																				
128	1.8.1.1 Document Lessons Learned	JJMA/Activity IC																			
129	1.8.1.2 Recommend HSMS System Improvements	JJMA/Activity IC																			
130	1.8.1.3 Develop POA&M for Full Operating Capability (FOC)	Activity IC/HMPO/RIC																			
131	1.8.2 Follow-Up Visit	Activity IC/HMPO/RIC/JJMA																			
132	1.8.3 Submit Final Implementation Report	JJMA																			

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APPENDIX E

HSMS Implementation Sample Memorandum of Agreement (MOA)

SAMPLE HSMS IMPLEMENTATION MOA and ADDENDUM SHEETS

MEMORANDUM

From: Director, NAVSUP Program Management Division
To: Commanding Officer/Commander, **(Activity)**

Subj: MEMORANDUM OF AGREEMENT (MOA) GOVERNING THE
IMPLEMENTATION OF CONSOLIDATED HAZARDOUS
REUTILIZATION AND INVENTORY MANAGEMENT PROGRAM
(CHRIMP) USING HAZARDOUS SUBSTANCE MANAGEMENT
SYSTEM (HSMS)

1. Purpose. The purpose of this MOA is to formalize the responsibilities and agreements between the Commanding Officer, **(Activity)** (hereafter referred to as the Activity) and NAVSUP Program Management Division, (NAVSUP 4C3) (hereafter referred to as NAVSUP) with regard to the implementation of HSMS at **(Activity)** as part of the Navy's Hazardous Material Control and Management (HMC&M) Program. The agreement is intended to describe the elements necessary for complete implementation of cradle-to-grave management of hazardous substances to include the full implementation of the Consolidated Hazardous Material reutilization and Inventory Management Program (CHRIMP).

2. Agreement

a. **Organization.** The Activity agrees to establish an organization to accomplish the implementation of CHRIMP and the HSMS system. The Activity shall designate an overall Activity Implementation Coordinator (IC) to act as the central point of contact (POC) and shall also designate POCs for Supply, Environmental, Occupational Safety and Health (OSH), Hazardous Waste, and Automated Information Systems (AIS) disciplines, at a minimum. The Activity shall provide the names, telephone numbers, and e-mail addresses of the designees to the NAVSUP Regional Implementation Coordinator (RIC), Mr./Ms. **(Name)**.

The Activity agrees to conform with OPNAVINST 5100.23D, OPNAVINST 5090.2B and the Consolidated Hazardous Material Reutilization and Inventory Management Program (CHRIMP) Manual with regard to occupational safety and health, management of HAZMAT and HAZWASTE and all aspects of environmental reporting.

NAVSUP has appointed Mr./Ms. **(Name)** as the RIC, the NAVSUP representative for the Activity's implementation. NAVSUP also

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agrees to provide Government and contractor assistance as detailed below.

b. **Initial Operating Capability (IOC).** As per the Activity Implementation Manual, IOC shall be defined in this Memorandum of Agreement and at a minimum, will include the necessary hardware and software being installed and loaded with a complete set of data for at least one work center that demonstrates and executes the cradle-to-grave functionality of HSMS. IOC for this Activity is defined as illustrated below and outlined in subsequent paragraphs. The table below indicates the work centers that comprise IOC and the extent of HSMS functionality for each that will constitute IOC.

Work Center	HSMS Functional Areas		
	Material	Pollution Prevention	Waste
<i>ex. Work Center 1</i>	X	X	X
<i>ex. Work Center 2</i>	X	X	X
<i>ex. Work Center 3</i>	X		

c. **Equipment.** Based on initial site survey, the RIC has determined that NAVSUP will furnish the following computer equipment configuration to implement HSMS initial operating capability (IOC):

- (#) File server
- (#) Pentium, Workstations
- (#) Modems
- (#) Barcode printers
- (#) Complete set(s) of software to include application, ORACLE, IQ Ad-Hoc Reporting, and Bartender software.

The Activity shall be responsible for maintenance and repair of the provided equipment, including ordering and coordinating warranty repairs. (See Activity Implementation Manual, Chapter 7). The Activity shall fund and install sufficient Local Area Network (LAN) and/or telephone line connections to support the IOC computer configuration.

The Activity and NAVSUP shall jointly install the equipment.

d. **Data.** Successful HSMS implementation is dependent on the definition and loading of accurate startup data. As a result, NAVSUP shall provide contractor support to assist in the development and pre-loading of data as outlined below.

To assist in the Activity's development of data, NAVSUP will provide a complete listing, associated flow diagrams, assumptions, and sample algorithms for industrial processes developed by and for the Naval Shipyard Portsmouth. NAVSUP representatives will assist the Activity in understanding, modifying, and applying the sample algorithms to the processes used within the Work Center(s) as indicated in the IOC Table in paragraph b., above. This includes a complete description of materials, waste streams, and waste profiles associated with each of the processes. The Activity will then be able to continue with further algorithm selection, development, and application to support IOC/FOC.

The Activity shall develop or provide the following data for pre-loading the system and forward it to the NAVSUP RIC for delivery to the contractor:

- A Material Safety Data Sheet (MSDS) for each hazardous material (HM) in inventory, by manufacturer. HMIS MSDSs may be used for this purpose.
- A complete definition of industrial processes used at the IOC Work Centers, including materials by National Stock Number (NSN) used in those processes.
- All information and/or databases that relate to waste streams used at the Activity, the makeup of those waste streams, and resulting waste profiles.
- A complete HAZMAT Authorized Use Lists (AUL) pertaining to materials and authorized users at IOC.
- Electronic media copies all relevant HM inventory management files such as HICS or other material management programs.
- Other relevant HSMS data such as listings of personnel, cost centers, locations (HM storage and users, HW processing), etc.

The NAVSUP contractor, using logistical data provided by the Activity and from FEDLOG, MSDSs from HMIS, and the other data provided by the Activity shall build and install a database for the Activity to satisfy IOC.

e. **Training.** The NAVSUP RIC shall coordinate classroom HSMS training, either at the Activity or in a close geographic proximity, for personnel who will be using HSMS. Activity shall assist the RIC in coordinating location(s) and dates for training Activity personnel. The Activity shall maintain a training sign-up list, and make this list available to the RIC.

The NAVSUP RIC shall also coordinate training in CHRIMP business practices, if needed, as well as various software applications related to the implementation and operation of HSMS, e.g., IQ, Windows NT, and applicable database.

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The NAVSUP contractor shall provide on-the-job HSMS training at the Activity using the Activity's equipment. This training will encompass all aspects of system functionality including material and waste management as well as pollution prevention and environmental reporting.

f. **Schedule.** NAVSUP shall coordinate the overall Plan of Action and Milestones (POA&M) with the Command and Activity IC.

The Activity recognizes that the POA&M for the Activity is being coordinated with numerous other Activity POA&M and agrees to make all efforts necessary to stay on schedule.

g. **Safety.** As part of the implementation support, NAVSUP's implementation contractor will be engaged in various functions such as conducting surveys of HM storage and distribution spaces, work centers, AIS spaces, and HM related administrative spaces; installing computer equipment; verifying Material Safety Data Sheets; bar-coding material; and inventorying material. Contractor personnel are trained and equipped with Personal Protective Equipment (PPE), to a level commensurate with the types of functions normally involved with HSMS implementations. They are trained in accordance with OSHA's Hazard Communication Standard (29 CFR 1910.1200). They will be equipped with a minimal level of PPE to include hard-hats, safety glasses, coveralls, and safety shoes, which will be worn when appropriate. They are not trained for, nor will they engage in hazardous waste operations or hazardous substance emergency response/clean-up operations, as defined in 29 CFR 1910.120. Contractor employees are directed to evacuate in case of releases, or substantial threats of releases, of hazardous substances. Contractor employees shall report such releases or other unsafe conditions to Mr./Ms. **(Name)**, **(Title)**, at **(Phone number)**. The Activity shall provide NAVSUP with a copy of their Emergency Response Plan or other document that describes the Activity's safety procedures. If the Activity requires any additional training or PPE of the implementation contractor, other than what is outlined above, it shall be listed below.

Approved:

Commanding Officer/Commander:
(Activity)

Director, NAVSUP Program
Management Division

_____ Date: _____

_____ Date: _____

APPENDIX F

HSMS Training Courses

1. HSMS Overview Training

Table F-I HSMS Overview Training

Course can be presented in any presentation format (from 1 hour to 2 full day) s. For Example, class can be presented in demo format for supervisors, managers (no hands-on) anywhere from 1 hours to half-day. Or, class can be presented in either 1 or 2 day format with hands-on training.

SESSION TITLE	(DAYS)	SUBJECTS COVERED
Setting Up Your Site	Range: From 1 hr to 2 Days	Facility People User Capabilities Administrative Information
Training and Safety		Courses, Equipment
Describing the Work Environment		Job Processes Defining Process Emissions
Chemical Specifics & Inventories		MSDSs Chemical, Material, Specific Inventories
Material Transactions		Receiving, Issuing Materials Accounting for Material Usage
Material Reporting		Locating Issued Materials Billing for Materials Issued
Waste Processes		Defining the Waste Environment Grouping Like Waste Streams Defining and Inventorying Waste Containers
Accounting for Waste		Bringing Waste into the HSMS System
Environmental Report Capabilities		Form R Reports Tier I Reports Tier II Reports Waste Operations Report Important Container Dates Waste Cost Reports

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2. HSMS Functional Training

Table F-II HSMS Functional Training

SESSION TITLE	(DAYS)	SUBJECTS COVERED
HSMS Overview	0.5	HSMS overview. A must for first time users. Great for all users who want to see how it all fits together. Prerequisite for anyone attending remainder of course.
Environmental Reporting and Reports	0.5	Specifically designed for those personnel who need to understand how HSMS deals with EPCRA reports, i.e., SARA List, Tier I & II, and Form R. <ul style="list-style-type: none"> • CAS Numbers • Tier II Daily Batch Updates • Form R • Printing Forms and Reports within HSMS
Background Information	1.0	Beneficial for Safety/Environmental personnel. <ul style="list-style-type: none"> • Cost centers, locations, personnel, manufacturers, training courses, and equipment • DOT Container Codes • CAS Numbers • NSNs, Master Inventory, AUL, Approval Authorization Form • Specific MSDS • Permits, Waste Streams • Generic and Site Specific Processes, Process Algorithms
Materials	1.0	Beneficial for personnel involved in ordering/receiving/issuing & disposition. <ul style="list-style-type: none"> • NSNs, NSN Levels by Location • Specific MSDS • Master Inventory/AUL • Anticipated Receipts • Receipts • Locating Inventory • Master Inventory Adjustment, Update NSN UOM/UOU • Multiple Inventory Transactions • Create Specific Task ID • Commit Materials by Doc. No. and NSN • Disposition of Material • Input Waste Byproducts • Decant Material • Shelf Life Tracking • Kit Procedures (Optional)
Waste	1.0	Beneficial for Environmental personnel. <ul style="list-style-type: none"> • Disposal Methods, Permits

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		<ul style="list-style-type: none">• Container Inventory• Waste Streams, Waste Profiles• Close, Store, Sample, Reopen, Change Location, Consolidate, Recycle Waste• Waste Disposition• Contracts• DD-1348-1s/-1As, Transporters' Manifest/BOLs, Delivery Order Request, Shipping Labels• Reports
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3. HSMS Administration Training

Table F-III - HSMS Administration Training

Each topic taught by subject matter expert; usually four (4) different instructors; therefore, order of presentation may change with each class.

SESSION TITLE	(DAYS)	SUBJECTS COVERED
Introduction HSMS Overview Windows NT Server	1	Class Introduction Housekeeping Rules/Information HSMS Admin Course Overview HSMS in the Client/Server Architecture Standard HSMS Server configuration Standard HSMS Client configuration Features Domains and Workgroup Account management Administrative Tools for Managing NT Managing Users and Groups Windows NT networking environment Managing servers Fault-tolerance features of NT Server Event Viewer
Oracle 7 Workgroup Server	1	Oracle7 architecture Oracle7 Administration Tools Instance Manager Security Manager
Oracle 7 Workgroup Server	1	Schema Manager Storage Manager Data Manager (Import/Export/SQL Loader) Backup/Restore Manager
Data Diagram	1	HSMS Naming Conventions Diagram Components Entity Relationships HSMS Entities (General, Material, Process, Waste)
HSMS Client	1	HSMS Database Overview Install client software Install Oracle7 components on client Configure SQL*NET Easy Install HSMS Application/Create Users HSMS Application Overview Use the HSMS Application Admin/Reference module
Report Writer	1	Install of report writer Introduction to the report writer tool Create table joins Create custom output

APPENDIX G

Acronyms & Abbreviations

AIM	Activity Implementation Manual
AIS	Automated Information Systems
AIT	Activity Implementation Team
CFR	Code of Federal Regulations
CHRIMP	Consolidated Hazardous Material Reutilization and Inventory Management System
CMB	Configuration Management Board
CNO	Chief of Naval Operations
CO	Commanding Officer
DBA	Database Administrator
DESCIM PMO	Defense Environmental Security Corporate Information Systems - Program Management Office
DM-HMMS	Depot Maintenance - Hazardous Material Management System
DoD	Department of Defense
DSN	Defense Switched Network
DUSD (ES)	Deputy Under Secretary of Defense for Environmental Security
E.O.	Executive Order
EHS	Extremely Hazardous Substance
EPA	U.S. Environmental Protection Agency
EPCRA	Emergency Planning and Community Right-to-Know Act
EQIS	Environmental Quality Information System
ESOH-MIS	Environmental, Safety, Occupational Health-Management Information System
FFCA	Federal Facilities Compliance Act

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FOC	Full Operating Capability
HAZCOM	Hazard Communication
HAZMINCEN	Hazardous Material Minimization Center
HICS	Hazardous Inventory Control System
HM	Hazardous Material
HMC&M Program	Hazardous Material Control and Management
HMPO	Hazardous Material Program Office
HS	Hazardous Substance
HSMS	Hazardous Substance Management System
HW	Hazardous Waste
IC	Implementation Coordinator
ILS	Integrated Logistics Support
ILSP	Integrated Logistics Support Plan
IMP	Implementation Management Plan
IOC	Initial Operating Capability
LAN	Local Area Network
LEPC	Local Emergency Planning Committee
MILDEPs	Military Departments
MM/MS	Material Management/ Shop Stores System
MOA	Memorandum of Agreement
MSDS	Material Safety Data Sheet
MSSD	Management Systems Support Division
NAVFAC	Naval Facilities Systems Command
NAVSEA	Naval Sea Systems Command
NAVSUP	Naval Supply Systems Command
NCTAMS LANT	Navy Computer and Telecommunications Area Master Station, Atlantic

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NFESC	Naval Facilities Engineering Support Center
NSN	National Stock Number
NSY	Naval Shipyard
OinC	Officer-In-Charge
OJT	On-the-Job Training
OPNAV	Chief of Naval Operations
PAT	Process Action Team
POA&M	Plan of Action and Milestones
POC	Point of Contact
RAS	Remote Access Service
REC	Regional Environmental Coordinator
RHMMS	Regional Hazardous Material Management System
RIC	Regional Implementation Coordinator
RQ	Reportable Quantity
SA	System Administrator
SARA	Superfund Amendments and Reauthorization Act
SCR	System Change Requests
SERC	State Emergency Response Committee
TC	Toxic Chemical
TPQ	Threshold Planning Quantity
USNR	U.S. Naval Reserve

APPENDIX H

NAVY SYSTEM CHANGE REQUEST (SCR) FORM
(USED FOR CHANGE REQUESTS AND PROBLEM REPORTS)
Part 1 of 3 (To Be Completed By Originator)

System: Hazardous Substance Management System (HSMS)	Version:	Date:	Original Doc Number:	Navy Doc Number:
User Name: (Facility SCR POC)		Phone #:		DSN Prefix:
Fax #:		Duty Station/Facility Name: (Complete Mailing Address)		
Type of Input: (Check One)	<input type="checkbox"/> Program Error (PE)	<input type="checkbox"/> Functional (Business Practice Driven)		
	<input type="checkbox"/> Other (Oracle, IQ, Bartender, Win NT, etc.)	<input type="checkbox"/> Functional (Regulatory Driven)		
Priority of Request: (Check One)	<input type="checkbox"/> High	<input type="checkbox"/> Moderate	<input type="checkbox"/> Low	
Error Message Received (If Applicable):		Menu Bar Heading (s)		
Description. Please describe where the problem is in the system (i.e., screen names, menu choices, what keystrokes lead you to the problem). Discussion should include impact of not making change. Also include the type of hardware/configuration under which you are currently using the system. Use continuation sheets if necessary:				
Number of additional sheets:				
Part 1:				
Part 2:				
Able to duplicate the problem: YES <input type="checkbox"/> NO <input type="checkbox"/> N/A <input type="checkbox"/>				
Forward to: (Facility SCR POC should forward proposals to)				
HSMS Help Desk, Management Systems Support Division, Code 1254, Bldg. H-29, Portsmouth Naval Shipyard, Portsmouth, NH 03804-5000. Tel: (207) 438-2813, DSN: 684-2813, Fax: (207) 438-1270, 1-888-217-9857				
E-Mail: hh_c1250@ports.navy.mil				

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NAVY HSMS SCR Form 2.0 (Revised January 98)

Part 2 of 3 (To Be Completed By DESCIM PMO)			
Received By:	Date Received:	DESCIM Assigned #:	DESCIM Priority:
PMO Review Date:	<input type="checkbox"/> Forward to TMO <input type="checkbox"/> Disapproved (See Comments) <input type="checkbox"/> Return to User for Action		
TMO Review Date:	<input type="checkbox"/> Forward to CDA <input type="checkbox"/> Forward to PMO		
CDA Review Date:	<input type="checkbox"/> Forward to TMO		
Command Review Date:	<input type="checkbox"/> Approved <input type="checkbox"/> Disapproved		
User Notified of Action Date:	Data Admin Review Date:	Comments:	
Part 3 of 3 (To Be Completed By CDA)			
Received By:	Date Received:	Date Assigned:	
Service Affected: <input type="checkbox"/> Army <input type="checkbox"/> Navy <input type="checkbox"/> Air Force <input type="checkbox"/> Marines <input type="checkbox"/> All Diagnosis:			
Est. Effort (Hrs):	Est. Start Date:	Est. Completion Date:	
Actual Completion Date:	Date DESCIM PMO Notified:	Change to Data Model: <input type="checkbox"/> No <input type="checkbox"/> Yes (attached)	
Change to Be Implemented In Version:	Est. Date Version to Be Fielded:		
Comments:			

NAVY HSMS SCR Form 2.0 (Revised January 98)

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SYSTEM CHANGE REQUEST (SCR) Instructions for the Navy HSMS SCR Form 2.0 (January 1998)

Part 1 of 3: To be completed by Originator

The System Change Request (SCR) is to be filled out by the submitting activity. Each SCR is to be **submitted by the Facility SCR Point of Contact (POC) only**. The POC should check for correctness, completeness and consistency with the overall policy of the submitting activity.

System: Hazardous Substance Management System (HSMS) preprinted on SCR Form.

Version: Enter the HSMS software version the submitting facility is presently using.

Date: Enter the date (Mo./Day/Yr) the improvement request is submitted to Management System Support Division (MSSD).

Originator's Document Number: Assign a unique document identification number. The number should include the facility's Unit Identification Number (UIC) or abbreviation (i.e., N00102 or PNS for Portsmouth Naval Shipyard) followed by a two digit calendar year date of submission and a three digit sequential number with leading zeros. Examples: Serial number PUG-96-015 is the 15th SCR submitted by Puget Sound Naval Shipyard in 1996; Serial number 65886-96-006 is the 6th SCR submitted by NADEP Naval Air Station Jacksonville in 1996.

NAVY Document Number: LEAVE BLANK - Assigned by MSSD. The number is made of four parts which will include the facility's Unit Identification Number (UIC) or abbreviation, followed by a two digit calendar year date, followed by a three digit sequential number with leading zeros and ending in a SCR duplicate suffix number (example: PNS-96-123-2 indicates a SCR submitted by Portsmouth Naval Shipyard in 1996, the 123rd SCR submitted and the second duplicate submitted on that subject by all Navy users).

User Name: Enter the name of the SCR Point of Contact who is submitting the SCR request to MSSD.

Phone #: Enter the User's commercial telephone number(s).

Fax #: Enter the User's commercial facsimile (Fax) number(s).

DSN Prefix: Enter the three digit DSN Telephone Prefix (if applicable).

Duty Station/Facility Name: Enter the facility's name and complete mailing address including codes, building numbers, street names, city, state and zip codes.

Type of Input: Check only one box that most clearly indicates the reason of SCR request being submitted.

Priority of Request: Check whether the SCR has a high, moderate or low priority for accomplishment. All programming errors are high priority.

Error Message Received (if applicable): Enter the verbatim Error Message, if and when an error message is generated by the condition being reported.

Menu Bar Heading(s): Provide the Menu Bar Heading(s) that you are reporting about (i.e., Materials - Transactions - Input Receipts). This is a mandatory entry to support SCR database.

Description: Describe the condition/problem being reported as clearly, completely, and concisely as possible. Include all appropriate information in this section. *Part 1: Describe system change in*

*functional non-technical terms. **Part 2:** (Optional) Describe system change in technical terms (i.e., screen names, menu choices, what keystrokes lead you to the situation requiring change). Also include the type of hardware/configuration under which you are currently using the system. Use continuation sheets if necessary.*

Able to duplicate the problem: Yes/No/NA

Part 2 of 3: To be completed by Defense Environmental Security Corporate Information Management Project Management Office (DESCIM PMO)

Part 3 of 3: To be completed by Central Design Agent (CDA)